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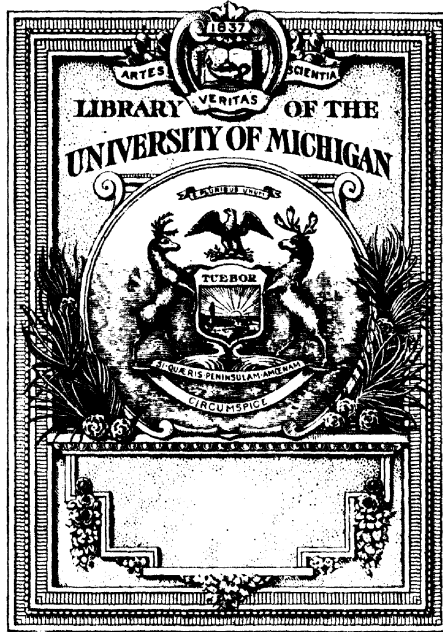
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# FAUNA HAWAIIENSIS

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# FAUNA HAWAIIENSIS

VOL. II. PART III.

*COLEOPTERA. I.*

D. SHARP.

R. C. L. PERKINS.

*Price Thirty Shillings.  
To Subscribers Fifteen Shillings.*

The Fauna Hawaiiensis is being published in parts at irregular intervals, and will it is hoped be completed in about two years.

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It is also intended to give a list of the Vertebrates, with their distribution, in the Islands.

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OR THE  
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Being Results of the Explorations instituted by the Joint Committee  
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EDITED BY  
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SECRETARY OF THE COMMITTEE.

VOLUME II. PART III.

*COLEOPTERA. I.*

By D. SHARP AND R. C. L. PERKINS.

*Pages 91—270; Plates VI, VII, VIII, IX, X, uncoloured.*

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COLEOPTERA PHYTOPHAGA

By D. SHARP.

COLEOPTERA RHYNCHOPHORA, PROTE-  
RHINIDAE,

COLEOPTERA HETEROMERA, CIOIDAE

By R. C. L. PERKINS.



# COLEOPTERA<sup>1</sup>.

## I. COLEOPTERA PHYTOPHAGA.

By D. Sharp.

*Contents.* § 1, *General remarks*; § 2, *Systematic account*; § 3, *Bibliographic list*.

### § 1. General Remarks.

THE remarkably successful zoological work of Mr Perkins has thrown fresh light on many points connected with the entomology of the Hawaiian Islands. It would be out of place to discuss most of these points at present, but there is one to which I may here allude. It was formerly supposed that very few specimens of any of the precinctive<sup>2</sup> species could be obtained. As the geographical area of the islands is very small, it of course followed as a corollary that the number of individuals existing of a species was extremely small. Although there is still much truth in this idea, it has nevertheless become clear that in many cases the limitation is far from being so great as we supposed it to be, Mr Perkins having procured a large number of individuals of numerous precinctive species. He has however succeeded in doing this in most cases only by tracing the exact conditions under which they exist. It thus remains true that, compared with the great majority of Insects in other parts of the world, the individuals

<sup>1</sup> Owing to the great extent of the Hawaiian Coleoptera this Order will be dealt with in divisions.  
EDITOR.

<sup>2</sup> I use the word precinctive in preference to endemic or peculiar—both of which are in common use—in the sense of “confined to the area under discussion.” The word endemic has been objected to on the grounds that its derivation does not indicate geographical restriction, and that it is actually used in medicine to signify constant, but not necessarily exclusive, presence in a locality. The word peculiar has no special connection with geography and when used by itself is often inadequate to convey the meaning intended; so that when one speaks of “peculiar” forms it is necessary to add some expression to make it clear that geographical peculiarity is meant. Hence we require another word that can be used when there is no context (as in tables), or when the context does not make it clear that geographical restriction is the point in view. Precinctive appears to me suitable for this purpose and I see no objection to the use of the word restricted. “Precinctive forms” means therefore forms that are confined to the area specified.

of a species actually existing are very few; the species having not only a very small geographical distribution, but also being found in but few stations in the area.

The fact that species are sometimes found in considerable numbers at some of these stations renders it doubtful whether there is diminished fertility of the individuals, as I formerly supposed. At present there is but little evidence on this point.

Whether the Insects are unusually specialised in their modes of life is also doubtful. Most of them are either forest species, or are of alpine or subalpine habits.

Many forest Insects in other parts of the world are notorious as being but rarely met with. In the New Forest, in the south of England, this is certainly the case, and it is probably due to the fact that trees are only attacked when they are in certain stages of decay, or offer some special kind of shelter, or are accompanied by some particular kinds of fungoid growths.

**Variation.** In the case of two or three of the species dealt with in this paper I have had at my disposal some hundreds of specimens for examination. It therefore seems necessary that I should make some remarks on their variation, though on considering this I find that the data are very inadequate for a complete discussion. Nevertheless it will be well to present certain facts with regard to the genus *Plagithmysus* which appears to be one of the most suitable genera for the study of variation in Hawaiian Insects.

Twenty-nine species of this genus are now known. But about nineteen of these have each been found only in a single station, and of the remaining ten several are so rare that no opinion can be pronounced as to their variation. We have little or no information as to the distribution of the species beyond the fact that no species has yet been found on more than one island. It would scarcely be possible to find species more closely allied than are some of these *Plagithmysus* and yet, so far as the specimens yet procured entitle us to judge, though found in the same locality and at the same season they appear to be really distinct. *P. varians*, *P. darwinianus* and *P. lamarckianus* are examples of this, all of them having been procured at Kilauea in August; they are as closely allied as any three species can be.

Varieties of the same species may be found together, and copulate indiscriminately. The variation is not indiscriminate. It appears probable that each species has its own set of variations and in some cases closely allied species could be defined by their variation. As an example I may refer to the colour of the hind legs. In *P. aequalis* these are either black or red, there are no intermediates although the two kinds copulate indiscriminately. The species is as regards this character dimorphic. In the three closely allied species—*P. varians*, *P. darwinianus*, *P. lamarckianus*—the facts are different. Here also there is variation in the redness or blackness of the legs, but the varieties of one species are not completely discontinuous. Moreover the species differ from one another in their variation in this respect. *P. varians* is very variable as regards the character in question. A highly remarkable variety of it has each leg half

red, half black. This variety is very common in this species but does not occur at all in either of the two allies though each of them is variable to a greater (*P. lamarckianus*) or less (*P. darwinianus*) extent as to the redness and blackness of the legs. *P. varians* is almost trimorphic as regards the colour of the legs, but the three forms are not completely distinct, and one of them is very much rarer than the other two.

Of *P. darwinianus* I have not a large series before me, but Mr Perkins examined a large number of specimens of this species captured by Mr A. Koebele and tells me that the legs are always red or nearly so in it<sup>1</sup>.

Thus as regards the character here considered we find that *P. aequalis* is dimorphic, that *P. varians* is imperfectly trimorphic, and that *P. darwinianus* is only slightly variable.

Very little information is available as to local variation. We have not received any one species of *Plagithmysus* from more than one locality in any considerable number; the specimens we have received lead me however to anticipate that considerable local difference in the variation exists. As an example I may mention that the five specimens of *P. aequalis*—a species confined to the island of Kauai—found at Waimea in April cannot be quite matched by any specimens of the large series found at Makaweli in January and February. Whether greater information as to local variation would lead to the union of some of the species at present treated as distinct, is a point on which I am not at all positive.

I may however point out that the three closely allied species I have already mentioned as being found in one locality have there each a different food-tree. In other words they are segregated by food though not by locality.

The two closely allied species, *P. blackburni* and *P. darwinianus*, exhibit the converse of this. Though both are found in the island of Hawaii and have the same food-tree they have not yet been found in the same locality. Each of these species has however as yet only been once or twice met with. It would be very interesting to know whether they ever occur together, and if so whether they still remain distinct.

In connection with this I must not omit to call attention to the peculiar case of *P. vitticollis* with its var. *longulus*, and of *P. bishopi* with its var. *gracilis*. In the case of these species the variety and typical form inhabit either different localities or different trees. We know however but little about these two species, and it is possible that these "varieties" may be incipient species, or even closely allied, but actually distinct forms. At present it holds good that all the forms I have treated as distinct species are segregated either geographically or by food: and this also applies to the two varieties just mentioned.

<sup>1</sup> A small series only of *P. lamarckianus* having been procured I do not mention its variation here, but may refer the reader to p. 110. It appears to be different from either of the other species as regards the character under discussion.

**Distribution.** Turning our attention to distribution, we note that the Coleoptera Phytophaga of the world consist of three great families : Chrysomelidae, Bruchidae, and Cerambycidae.

(1) Chrysomelidae. There are about 18,000 species of Chrysomelidae known, they are found nearly everywhere except in the Hawaiian Islands, where there is only a single species ; and even this has apparently been introduced quite recently. Chrysomelidae live on foliage, and the Hawaiian Islands are doubtless well adapted to sustain them, so that the absence of this great family has an important significance.

(2) Bruchidae. A family of about 700 species, of very little importance in this connection. The species live in seeds and are carried about by commerce. A few specimens have been found at Honolulu.

(3) Cerambycidae. One of the important families of Coleoptera, consisting of upwards of 12,000 species. Fifty-four have been discovered in the Hawaiian Archipelago, of which number forty-five are precinctive, while nine have been found elsewhere. These nine species belong to as many different genera ; the individuals do not differ in the islands to any appreciable extent from those found elsewhere. Owing to their comparative lack of interest they have however been but little collected. There is nothing in their distribution that throws any light on the origin of the Hawaiian fauna. The forty-five precinctive species of Cerambycidae belong to two very distinct categories. First there are single species of two genera of Prionini. Each of the genera to which they belong has a wide distribution ; the Hawaiian forms are not closely allied to any of the external forms ; they are in fact rather more distinct than is usual in their genera, so that there is no indication of special affinity with species of any other locality. The forty-three precinctive species of Cerambycini are totally different from the two Prionini we have discussed : they belong to three genera, very closely allied *inter se*, and form a special group or tribe—Plagithmysides—peculiar to the islands, distinguished by the wings having no transverse fold. They seem to be nearest allied to the genera *Neoclytus* and *Euryscelis*, which are found in North and Central America and the Greater Antilles. They are in appearance the most remarkable of the Hawaiian Coleoptera and must be considered as a very highly specialised group of Cerambycidae. They are remarkable in their habits<sup>1</sup>.

Thus there is a very great distinction between these Plagithmysides and the non-precinctive Cerambycidae found in the islands ; but the two endemic Prionini occupy as it were an intermediate place in their characters. These latter may be compared with the *Corvus hawaiiensis* amongst the birds, while the Plagithmysides appear to be analogous with the Drepanidae.

<sup>1</sup> See on this point Perkins, Ent. Mag. xxxii. p. 190, and P. Cambridge Phil. Soc. ix. p. 373.

## § 2. Systematic account of the Coleoptera Phytophaga.

Fam. CHRYSOMELIDAE.

EPITRIX Foudr.

(1) *Epitrix parvula* Fabr.*Crioceris parvula* Fabr., Syst. El. i. p. 468.

HAB. Oahu, Waianae mts.; Molokai. On "poha" or "cape gooseberry"—a plant which has no precinctive insect attached to it.

Mr Jacoby has examined some of our specimens of this insect, and informs me that they are not to be distinguished from *E. parvula*, a species widely distributed in Central America and the Antilles. The species was not found by Mr Blackburn and has probably been recently introduced.

Fam. BRUCHIDAE.

BRUCHUS L.

*Bruchus*, sp.

Species of this family are doubtless occasionally carried to islands with peas and beans, or other seeds. Mr Perkins has brought back two or three specimens found at Honolulu.

Fam. CERAMBYCIDAE.

Subfam. PRIONINI.

PARANDRA Latr.

(1) *Parandra puncticeps* Sharp.*Parandra puncticeps* Sharp, Tr. Ent. Soc. London, 1878, p. 202.

Rare, of nocturnal habits, chiefly found in the month of September, in several islands.

HAB. Kauai, 4000 ft. May, July, September, and October, Perkins.—Oahu, in "*Acacia falcata*" in the mountains, Blackburn.—Molokai, September 1893, Perkins.—Hawaii; Kona, July and September, Perkins.

This species exhibits a great deal of variation in the form and proportions of the prothorax, epistome, mandibles, etc. and there may possibly be more than one form in the islands. The material before me is not sufficient to decide as to this, owing to the development of the individual being subject to much variation; but the varieties appear to be to some extent located in different islands.

AEGOSOMA Serv.

(1) *Aegosoma reflexum* Karsch.

*Aegosoma reflexum* Karsch, Berlin. ent. Zeitschr. xxv. 1881, p. 7, Pl. I. fig. 11.

HAB. Kauai, in July, Perkins.—Maui; Grove Ranche, Karsch; Haleakala, Perkins.—Hawaii; Kona and Kilauea, Perkins.

This species is common in the larval state, in wet or dry, decayed wood, and is also found in trees that are not entirely dead. The imago is rare, being nocturnal, and only occasionally attracted by light.

Subfam. CERAMBYCINI.

Group OEMIDES.

XYSTROCERA Serv.

(1) *Xystrocera globosa* Olivier.

*Cerambix globosus* Oliv., Ent. iv. 67, p. 27, p. xii, fig. 81.

HAB. Oahu; Honolulu (Perkins). No doubt recently introduced. The species is widely distributed outside the islands, and its occurrence in Honolulu has no special interest.

Group HESPEROPHANIDES.

ASTRIMUS Sharp.

(1) *Astrimus hirtus* Fairm.

*Stromatium hirtum* Fairm., Rev. Zool. 1860, p. 50.

(n. syn.) *Astrimus obscurus* Sharp, Tr. Ent. Soc. 1878, p. 204.

HAB. Oahu; Honolulu, Blackburn.

This was no doubt introduced, and it is doubtful whether it has become naturalized or has died out. It was not met with by Mr Perkins. The species is widely distributed, having been found in Siam, Fiji, and the Philippine Islands as well as in Tahiti. Mr Gahan considers *Gelonaetha* Thoms. to be the same genus as *Astrimus* Sharp. I was formerly of the opinion that *Stromatium hirtum* was a different species, but I now accept Mr Gahan's identification of the two.



Group *CALLIDIOPSIDES*.

## CERESIMUM Newman.

(1) *Ceresium simplex* Gyll.

*Stenocorus simplex* Gyll. in Schönherr Syn. Ins. App. 1, 3, p. 178.

*Ceresium simplex* Sharp, Tr. Ent. Soc. London, 1878, p. 203.

HAB. Oahu; Honolulu, Blackburn, Perkins; Waialua, Perkins.—Molokai, Perkins.—Maui; Wailuku, Perkins.

The species is widely distributed in the Pacific islands, but the record of it as occurring in New Zealand (*Callidium zelandicum* Blanchard, Voyage Pole sud, iv. p. 272, Pl. XVII. fig. 4) was probably erroneous; Blanchard's figure does not appear to represent this species. It probably occurs on all the islands where the introduced Acacia—*Prosopis*, sp. ?—is found. It comes freely to light and has been noticed by Mr Perkins on all the islands except Lanai, though I have mentioned above only localities that have been specially noted.

## CURTOMERUS Steph.

(1) *Curtomerus pilicornis* Fab.

*Callidium pilicorne* Fab., Ent. Syst. 1. 2, p. 327.

*Curtomerus luteus* Steph., Ill. Brit. Ent. iv. p. 249.

*Sotenus setiger* Sharp, Tr. Ent. Soc. London, 1878, p. 205.

HAB. Oahu; Honolulu, Blackburn, Perkins.—Also seen on Maui at Lahaina. The species is no doubt liable to be carried about, having been found on one occasion in England. Other localities are South America, the W. India islands, and Florida.

Group *CLYTIDES*.

## CLYTUS Laich.

(1) *Clytus crinicornis* Chevr.

*Clytus crinicornis* Chevr., Ann. Soc. Ent. France, 1860, p. 460.

HAB. Oahu; Blackburn, Perkins.—Kauai; Perkins.—Molokai, Perkins.—Abundant all over the islands, on the introduced Acacia, *Prosopis*, sp. This is a Central American species.

Group *PLAGITHMYSIDES*.

The difficulty of distinguishing the three genera of Plagithmysides has considerably increased in consequence of the discovery of additional forms. The characters distinguishing *Clytarlus* from *Plagithmysus* are, that in the former genus the hind legs are clubbed and possess a long slender basal stalk. A sexual difference in the form of the legs is constant in *Clytarlus* inasmuch as the femora of the female are less clubbed than they are in the male (Plate VI. figg. 2 and 3). On the other hand in the large majority of the species of *Plagithmysus* there is very little difference in the legs of the two sexes, and the femora are never abruptly clubbed, and with a long thin basal stalk. The females of *Plagithmysus funebris*, *arachnipes* and *cristatus* possess however much more slender legs than their males, and therefore considerably approach *Clytarlus*. The female of *Clytarlus pennatus*, has the legs but little clubbed, and therefore there is but little difference between it and the females of the three species of *Plagithmysus* mentioned.

The male of *Plagithmysus cristatus* approximates in the form of the legs to *Callithmysus*. Thus this species is as it were the central point of the group, its male approaching *Callithmysus*, while its female comes near to *Clytarlus*.

It is also desirable to mention, in connection with the extraordinary reduction in size of the abdomen in this group, that this character is subject in the females of the same species to great variation. This is probably in connection with the growth of the ovaries. Some of the females have the abdomen very small, while in others, of the same sex and species, it is of the size normal in Coleoptera.

Mr Perkins has observed that the extraordinarily complex stridulating organs of these insects are brought into play during breeding, and that very frequent coupling occurs, and this to an extent that is almost unknown otherwise in insects; the Plagithmysides are extremely active and are apparently both polyandrous and polygamous. He has also suggested that the size of the abdomen influences the stridulating. So that all the observations that have been made tend to show that the unequalled complexity of the stridulating organs is correlative with the unusual system of copulation and probably plays an important part in it.

## CLYTARLUS Sharp.

*Clytarlus* Sharp, Ent. Mo. Mag. Oct. 1896, p. 238.

*Clytarlus* (pars) Sharp, Tr. Ent. Soc. London, 1879, p. 102.

All the species of *Clytarlus*, except *C. abnormis*, are attached to one of the two Acacias, *Sophora chrysophylla* and *Acacia koa*. They are rare and difficult to obtain. The material before me is not adequate for the satisfactory elucidation of these very difficult insects.

(1) *Clytarlus filipes* Sharp.

*Clytarlus filipes* Sharp, Tr. Dublin Soc. (2) III. 1885, p. 196.

This species has the punctuation of the upper surface denser and finer than in the allies. It is readily distinguished, so far as the male is concerned by the peculiar structure of the dorsal plate of the genital segment, which is unusually large and very deeply notched, so that the two angles project as a sort of forceps at the tip of the body. (Plate VI. fig. 1 a.)

HAB. Hawaii; Mauna Loa, "on *Acacia* sp." Blackburn: Kona and Kilauea in August and September; Kau, the half-way house, Sepr. Perkins. Apparently rare, we having received only 15 examples. Attached to *Sophora chrysophylla*.

(2) *Clytarlus mediocris*, sp. nov.

Minor, fusco-niger, depressus, opacus, albido-vestitus, elytris plus minusve conspicue transversim fasciatis, antennis pedibusque fusco-testaceis, femoribus basibus pallidis. Long.  $4\frac{1}{2}$ — $6\frac{1}{2}$  millim.

(Plate VI. figs. 1 and 1 b.)

Closely allied to *C. filipes*, but with a shorter stalk to the hind femora, and with the terminal dorsal plate of the male much less deeply excised.

HAB. Maui; a series of 38 specimens was found on Haleakala, 3000—5000 ft. May 1896. Attached to *Sophora chrysophylla*.

(3) *Clytarlus fragilis* Sharp.

*Clytarlus fragilis* Sharp, Tr. ent. Soc. London 1881, p. 534; Tr. Dublin Soc. (2) III. 1885, Pl. V. fig. 48.

HAB. Oahu; Palolo Valley, November, Blackburn: Waianae mountains, February 1896, and April 1892; beaten from dead branches of Koa, Perkins. Apparently very rare, only four specimens having been obtained. On *Acacia koa*.

(4) *Clytarlus debilis*, sp. nov.

Minor, subdepressus, testaceo-brunneus, in elytris subfasciatus, dense punctatus, pedibus ex parte majore testaceis, femoribus posterioribus clava abrupta. Long. ♀ 9 millim.

Closely allied to *C. fragilis*, but with the club of the hind femora rather longer,

and the punctuation of the elytra denser; the punctuation on the brown band behind the scutellum denser and finer. The antennae are rather long, yellow, but little thicker at the tip. The pronotum is transversely evenly convex without median or lateral crests, there being a single ante-median, and two smaller post-median transverse elevations. The punctuation on the apical parts of the elytra is obsolete; the colour of the hairs forming the obscure elytral fasciae is yellow rather than white; the pubescence on the femora is long, and that on the under surface of the body is long and scanty. The stalk of the hind femur is very pallid and long, the club is abrupt, brown. Only five abdominal segments can be seen in the male, and the hind-margins of the dorsal and ventral plates of the fifth are broad and nearly straight.

Only two specimens of the male sex have been found.

A third specimen, from Mauna Loa 17. VII, 92, is I have no doubt the female; it is much larger, and has much less abruptly clubbed femora.

HAB. Hawaii; Mauna Loa (W.) Sepr. 1892, 4000 ft.; Hualalai, 5, VIII, 92, 5000 ft. On *Acacia koa*.

(5) *Clytarlus obscurus*, sp. nov.

Minor, rufo-obscurus, vel fuscus, albido-pubescent, in elytris subfasciatus, antennis pedibusque testaceis, femoribus clava fusca. Long.  $4\frac{1}{2}$ — $6\frac{1}{2}$  millim.

Var. Antennis pedibusque ex parte majore nigris.

This is an excessively variable species in the colour of the elytra, legs and antennae, in the length of the white hairs, and in the fasciae of the elytra; it also varies considerably in the elongation of the legs; the variation in size seems to be less than it is in some other species. The thorax usually appears somewhat depressed longitudinally on each side of the middle, so that the middle appears slightly crested, but the transverse elevations on the middle are very small. The legs bear a very distinct, fine long pubescence; the hind femora have a long basal stalk yellow in colour, and a darker, moderately long and abrupt club, which is much thicker and more abrupt in the male than it is in the female. The genital segment of the male is simple. The punctuation in this species is less dense and fine than in *C. filipes* and *mediocris*, and the simple genital segment of the male clearly distinguishes *C. obscurus* from both those species. The paler varieties closely resemble *C. fragilis* and *C. debilis*, but may be separated therefrom by the less abrupt club of the femora, and by the darker colour.

HAB. Kauai; in several localities at a height of about 3000 feet, Perkins; nearly fifty specimens. On *Acacia koa*.

(6) *Clytarlus modestus* Sharp.

*Clytarlus modestus* Sharp, Tr. ent. Soc. 1879, p. 104.

HAB. Maui; Haleakala, 4—5000 ft. in April and May, "on *Acacia falcata*," Blackburn; Haleakala, 5000 ft. May, Perkins. On *Acacia koa*.

(7) *Clytarlus claviger*, sp. nov.

Secundum sexum diversus. Mas, rufus, albido-pubescent, elytris fere nudis, in medio longitudinaliter breviter albido-signatis, femoribus abrupte clavatis, clava nigra. Fem., fusca, albido-pubescent, antennis pedibusque testaceis, his gracilibus, clava fusca, gracili. Long. ♀  $7\frac{1}{2}$  millim.

This is closely allied to *C. modestus*. The thorax is a little cristate along the middle. The punctuation of the elytra is dense and fine, and leaves the surface a little shining.

HAB. Hawaii; Kilauea, June 1895. On *Acacia koa*.

Although only two males and one female have been obtained, and the two individuals of the male sex are very different in appearance, yet I have little doubt that they belong to one species, and are distinct from *C. modestus*. The male is readily distinguished by the black femoral club, and the female by its larger size and darker colour. The individual of the female sex is very different from the males.

(8) *Clytarlus laticollis*, sp. nov.

Rufo-testaceus, parum pubescens; pedibus minus elongatis, femoribus clava rufa, elongata; thorace densissime punctato, medio late obtuseque elevato; elytris fortiter punctatis, medio plagis obsoletis albido-pubescentibus. Long. 7.75 millim.

Only one specimen—a male—has been obtained. The species has the clubbed legs of *Clytarlus*, but the slender stalk is less elongate than in the normal *Clytarlus*, being in fact only as long as the club. Thorax broad and short, extremely densely punctured, almost without pubescence, with a broad elevation—rather than a crest—along the middle, and with five or six transverse elevations on this. Elytra much narrowed behind, strongly punctured at the base, obsoletely at the tip, with very little pubescence but with a small divided mark of scanty white hairs on the middle.

HAB. Maui; Haleakala, 5000 ft. May 1896, Perkins. On *Acacia koa*.

(9) *Clytarlus abnormis*, sp. nov.

Rufus, pectore fusco; pedibus minus elongatis; thorace densissime punctato, supra inaequali, haud cristato; elytris dense, subtiliter punctatis, singulo posterius ad suturam linea pubescentiae albidescente. Long. 9.5 millim.

Only one specimen—a male—has been received of this distinct species; the legs are formed much as in *C. laticollis*, but in several other respects the two species are very distinct. The thorax is not like that of any other species; it is very densely punctured above, and has no transverse elevations or scabrosities along the middle, but has an obtuse conical tubercle in front, and a broad obscure elevation behind; the surface is also more prominent on each side, so that the dorsum is very uneven. The elytra are rather shining; the line of pubescence along the suture of each extends from the tip to a little in front of the middle, and there are a few additional pallid hairs on the outside of each line where it ends. The club of the hind femora is elongate and very gradual.

HAB. Hawaii; Olaa, September 1896. Probably attached to *Metrosideros* or *Straussia*; not to *Acacia*, as there are none growing in the locality of its occurrence.

(10) *Clytarlus pennatus* Sharp.

*Clytarlus pennatus* Sharp, Tr. ent. Soc. London 1881, p. 532.

(Plate VI. fig. 2 ♂, fig. 3 ♀.)

The specimen originally described was a male. Both sexes vary much in size; the female is more slender, and the legs are much thinner and bear but little pubescence. A fine series has now been obtained; the variation is considerable as regards colour, size (8—12½ millim.) and pubescence, but is nothing like so great as it is in several species of *Plagithmysus*.

HAB. Maui; Haleakala, Blackburn; Haleakala, 5000 ft. February and May, Perkins. On *Acacia koa*. Mr Blackburn originally met with this species "on the same tree as *Proterhinus lecontei*." *C. pennatus* and *P. lecontei*, according to Mr Perkins' observations, live on different species of trees, so that the earlier record was probably based on a mere accidental occurrence.

(11) *Clytarlus nodifer*, sp. nov.

Fuscus, vel testaceus, dense albido-pubescent, elytris vel fasciis interruptis duabus, vel maculis quatuor denudatis; pedibus testaceis minus elongatis; maris femoribus abrupte clavatis, clava fusca dense albido-vestita; feminae clava gracili fusca, parum dense albido-setosa; tibiis apice fusco. Long. 6—12 millim.

Allied to *C. pennatus*, but with shorter legs, and more abrupt club to the posterior femora. Thorax strongly cristate, with an abrupt anterior vertical elevation, and a well-marked posterior elevation bearing two carinae. The colour of the elytra varies, it is usually blackish, but is sometimes yellow along the outer margins; the white pubescence is more dense in the male than in the female; the denuded spaces are densely and finely punctured. The femoral club is very dark, in abrupt contrast to the pallid stalk, and it is variegated with white pubescence which is much more extensive in the male than it is in the female; in the latter sex the club is only slender, and is not abrupt.

HAB. Hawaii, Kona, 3000 ft. March 1896. A small series of eleven specimens, unfortunately much broken. Attached to *Acacia koa*.

(12) *Clytarlus longipes*, sp. nov.

Gracilis, dense subtiliter punctatus, opacus; mas rufus, elytris parce albido-vestitis, ante medium fascia angulata denudata, pedibus testaceis, femoribus clava elongata rufa; femina supra fusca, thorace plus minusve evidenter rufo-vittato, elytris tenuiter albido-vestitis, haud signatis; pedibus fuscis, femoribus basi testacea. Long. 6—8½ millim. (Plate VI. fig. 4 ♂.)

This species exhibits considerable difference between the sexes. The male to a certain extent reminds one of *Plagithmysus* both in form and colour, while the female is extremely similar to certain females of *C. obscurus*. The thorax is scarcely at all cristate, but has a well-marked elevation in front, and two behind the middle, it is very densely punctate, and has very little pubescence; it is red in the male, black, obscurely striped with red in the female. The elytra are finely, very densely punctured, quite dull. In the male they are red, with an angular space covered with white pubescence about the scutellum, and also with the apical half bearing a good deal of white pubescence. In the female they are nearly black, red only at the basal margin, and there is white pubescence scantily distributed all over them and not forming a pattern. The legs are very different in the two sexes; in the male the middle femora are shaped as in *Plagithmysus*, but the hind legs are those of *Clytarlus*, with a rather long club: in the female the middle and hind legs are long and slender, with long slender clubs to the femora.

This species was found in sufficient numbers to make it probable that the sexual distinctions are fairly constant. It appears to have been found in company with *C. obscurus*, and some of the females of the two are so similar that comparison of the form and length of the legs is necessary to distinguish the most similar examples; while between the males of the two species there is but little resemblance.

HAB. Kauai; thirty specimens. On *Acacia koa*.

(13) *Clytarlus annectens*, sp. nov.

Gracilis, rufus, dense punctatus, elytris in dimidio apicale guttis minutissimis albidis; pedibus basi antennisque flavis: femoribus posterioribus clava elongata, suboblonga. Long. 7.5 millim.

Only one individual, a male, has been found of this species which might be placed with as much propriety in *Plagithmysus* as in *Clytarlus*. The thorax is not crested along the middle, but there is a slight anterior elevation, and numerous minute irregular scabrous elevations behind it: the sculpture is excessively dense and fine and there is almost no pubescence. The elytra are much narrowed behind, and are densely and rather closely punctured: there are some excessively minute spots of white hairs on the apical part near the suture, and also a few below the shoulder. There is a dense white pubescence on the sides of the breast. The middle legs have a long club and a rather short but slender stalk; on the hind legs the stalk is longer and slender, so that I refer the species to *Clytarlus* rather than to *Plagithmysus*.

HAB. Kauai, 1894. On *Acacia koa*.

## PLAGITHMYsus Motsch.

*Stenopterus*? Motschoulsky, Bull. Soc. Moscou, 1845, p. 85.

*Plagithmysus*, id. op. cit. Pt. II. 1845, p. 41; Sharp, C. R. Soc. ent. Belgique, 1885, p. lxxiv; id. Ent. Mo. Mag. 1896, p. 237.

*Ænemonia* (erroneously), Motschoulsky, Etudes ent. 1852, p. 76.

*Neoclytus* (pars), Horn, Tr. Amer. ent. Soc. v. p. 150.

*Clytarlus* Sharp, Tr. ent. Soc. London, 1878, pp. 206 and 208.

*Clytarlus* (pars), id. op. cit. 1879, p. 102.

Mr Perkins has obtained fine series of this genus, enabling me to feel pretty certain that the species are fairly distinct, and can be readily recognised notwithstanding their being in many cases very closely allied. No species has been found on two islands. Apparently each species is confined to one kind of tree. Nine of the species are attached to one or other of the precinctive Acacias. Closely allied species are attached in certain cases to the same species of tree, but it would seem that they are in this case geographically separated. *P. blackburni* and *P. darwinianus* are both attached to *Sophora chrysophylla*, and both occur on the island of Hawaii, but they have not been found in the same locality there. Closely allied species (*P. darwinianus*, *varians* and *lamarckianus*) live in the same locality but are attached to different trees.



(1) *Plagithmysus vitticollis* Sharp.

*Plagithmysus vitticollis* Sharp, Ent. Mo. Mag. xxxii. 1896, p. 240.

(Plate VI. fig. 5 ; ♀.)

HAB. Hawaii, Kilauea, August 1895. On Akala (*Rubus* sp.) Perkins.

Var. *longulus* Shp. l. c.

HAB. Hawaii, Olaa.

Mr Perkins has now procured a fair series of the variety *longulus*. None of the individuals have any signs of being red on the elytra; the thoracic vittae are less definite, the lateral yellow patch being considerably less extensive and there are few or no white hairs on the hind feet. One or two of the individuals are however intermediate in these respects, so that it is probable that both var. *longulus* and the typical form belong to one species which has a slightly different variation in the two localities. As the two forms of the species live on different trees, it would be possible to infer that we have in this case a species in process of dividing into two.

(2) *Plagithmysus permundus*, sp. nov.

Gracilis, niger, thorace nigerrimo, vittis albidis angustis perdiscretis; elytris dense punctatis, signaturis irregularibus albido-ochraceis ubique ornatis; femoribus basi flava, tibiis tarsisque rufo-obscuris, tarsis posterioribus, dense albido-hirsutis. Long. 12 millim. (Plate VI. fig. 6.)

A very distinct species, remarkable on account of the very definite white stripes on the jet-black thorax, and by the peculiar irregular but very definite pallid marks on the elytra, which along the suture are more confluent than elsewhere so as to form a pair of much broken irregular lines; the white tarsi, in contrast with the dark tibiae, are also remarkable. The antennæ are thin and long. The hind and middle legs are very long, but not very thick. The under surface is black, and very definitely marked with patches of pale sulphureous scales; the posterior aspect of the hind coxæ has a very definite white patch on it. The femora are sparingly clothed with very short white hairs. The sexes apparently differ very little.

HAB. Kauai, 2000 ft. Feb. 1897: nine examples, Perkins. This feeds on the same tree—*Bobea* sp.? as *P. vitticollis* var. *longulus*, and *Callithmysus hirtipes*. The tree is called "ahakea" by the natives.

(3) *Plagithmysus newelli* Sharp.

*Plagithmysus newelli* Sharp, Ent. Mo. Mag. xxxii. 1896, p. 240.

(Plate VI. fig. 7.)

HAB. Maui; Brother Matthias Newell, a single example.

(4) *Plagithmysus concolor* Sharp.

*Plagithmysus concolor* Sharp, t. c. p. 241.

(Plate VI. fig. 8; ♀.)

HAB. Kauai; on "Ohia-ha," = *Eugenia*, sp. Perkins; Kaholuamano 4,000 ft. G. C. Munro. This species varies but little. The series of 27 specimens sent by Mr Munro differ but little in colour and markings, and range in length between  $8\frac{1}{2}$ —18 millim.

(5) *Plagithmysus solitarius* Sharp.

*Plagithmysus solitarius* Sharp, t. c. p. 241.

HAB. Oahu, Nuanu Valley, 2000 ft., October 1892; Perkins. Unique.

(6) *Plagithmysus cuneatus* Sharp.

*Plagithmysus cuneatus* Sharp, t. c. p. 241.

(Plate VI. fig. 9; ♀.)

HAB. Oahu, Kaala 1000 ft., March 1893; Perkins. Mr Perkins is unfortunately not acquainted with the name of the tree on which this species was found.

(7) *Plagithmysus finschi* Har.

*Clytarlus finschi* Harold, Mitt. München. ent. Ver. iv. 1880, p. 166; Karsch, Berlin. ent. Zeitschr. xxv. 1881, p. 8, Pl. I. fig. 13.

*Plagithmysus finschi* Sharp, Ent. Mo. Mag. 1896, p. 242.

HAB. Maui, Olinda, Dr Finsch; 4000 ft., Blackburn; Haleakala 4000 ft., May; Perkins. On *Acacia koa* (Perkins). According to Blackburn on "*A. falcata*," but this gentleman appears to have erroneously called *A. koa*, *A. falcata*.

(8) *Plagithmysus funebris* Sharp.

*Plagithmysus funebris* Sharp, l. c. p. 273.

(Plate VI. fig. 10; ♂.)

HAB. Maui, Haleakala in May, and Sept.—Oct. Perkins. On *Sophora chrysophylla*.

(9) *Plagithmysus pulverulentus* Motsch.

*Stenopterus pulverulentus* Motsch., Bull. Mosc. 1895, I. p. 85, Pl. I. f. 12.

*Plagithmysus pulverulentus* Motsch., Bull. Mosc. 1845, II. p. 41, Pl. VI. f. 7;  
Sharp, Ent. Mo. Mag. XXXII. 1896, p. 242.

*Clytarlus robustus* Sharp, Tr. ent. Soc. 1878, p. 206.

HAB. Oahu, both ranges; on *Acacia falcata*, Blackburn (erroneously); Perkins, on *A. koa*.

(10) *Plagithmysus diana*, sp. nov.

Nigerrimus, dense regulariter griseo-ornatus: thorace subgloboso, griseo, nigro trivittato: elytris griseis, areis denudatis nigris, ad suturam lineis latis discretis ante medium leniter divergentibus pallide pubescentibus, ante lineas has plaga angulariter nigro-pubescente. Long. 13 millim.

(Plate VI. fig. 11.)

An extremely distinct, beautifully, though soberly, ornamented species, with the sides of the thorax more strongly rounded than they are in any other species of the genus. There is a slight longitudinal carination of the middle of the thorax. The legs are entirely black even at the base, the posterior are elongate, but less incrassate than in most other species. The sexes appear to be very similar.

HAB. Kauai, 4000 ft., July, 1896. Eight examples; on *Pelea* sp.

(11) *Plagithmysus collaris*, sp. nov.

Niger, elytris, antennis pedibusque rufo-obscuris, his femoribus extrorsum tibiisque plus minus nigricantibus; pube pallide sulphurea ornatus; elytris densissime punctatis, singulo linea pubescente pallida antierius versus latus divergente, ante lineas plaga nigro-velutina, basi rugosa, parvissime sulphureo-pubescente. Long.  $8\frac{1}{2}$ —16 millim. Mas, prothorace ad latera densissime punctato. Fem., prothorace ad latera plus minus late laevigato.

(Plate VI. fig. 13; ♂.)

This is a very distinct species, somewhat similar to *P. bishopi* and *P. vicinus*. There are no definite thoracic stripes, but the thorax is broadly cristate and scabrous along the middle, and there are distinct lateral elevations; it is a good deal constricted at the base. The elytra are dark red, and remarkable on account of their dense punctuation.

HAB. Maui; Haleakala. The larva of this species was found in October, 1896, feeding in the wood of *Pelea* sp.; by carrying this wood to Honolulu Mr Perkins obtained a series of 20 specimens in the following December.

(12) *Plagithmysus bishopi* Sharp.

*Plagithmysus bishopi* Sharp, Ent. Mo. Mag. xxxii. 1896, p. 242.

(Plate VI. fig. 12.)

HAB. Hawaii; Kilauea, 4000 ft., August 1895, and 1896. On *Pelea* sp. (Perkins).

*Plagithmysus bishopi* var. *gracilis*, Sharp, l. c. The unique individual of this variety was found on another tree resembling "pua" but with lighter, smoother bark.

(13) *Plagithmysus vicinus* Sharp.

*Plagithmysus vicinus* Sharp, l. c. p. 243.

HAB. Hawaii; Mauna Loa, 3000 ft., October 1892; Perkins.

Undoubtedly a distinct species. On *Pelea* sp., but not the same species as that to which *P. bishopi* is attached.

(14) *Plagithmysus bilineatus* Sharp.

*Plagithmysus bilineatus* Sharp, l. c. p. 243.

(Plate VI. fig. 14; ♀.)

HAB. Hawaii; Kilauea, also in the Kona and Puna districts. On the "Ohia lehua" tree, *Metrosideros polymorpha*, Perkins.

Besides being found in more than one locality this species was obtained in plenty. The variation in size (from 9—20 millim. long) is considerable, but in respect of colour it is less than in some other species. Some specimens are considerably blacker than others; but the blackness shews itself chiefly on the elytra. The hind legs are sometimes much more broadly tinted with black towards the tips than they are in others, and this is in nearly all cases correlative with a greater extension of the black colour on the wing-cases. The head and thorax remain red in the whole of the series before me.

(15) *Plagithmysus lanaiensis* Sharp.

*Plagithmysus lanaiensis* Sharp, l. c. p. 244.

HAB. Lanai; Halepaakai, 3000 ft., July 1894, Perkins. Probably (but only inferentially) attached to *Metrosideros polymorpha*, this being the predominant tree in the locality of capture.

(16) *Plagithmysus perkinsi* Sharp.

*Plagithmysus perkinsi* Sharp, *t. c.* p. 244.

(Plate VI. fig. 15; ♀.)

HAB. Hawaii; Mauna Loa, in two localities, June and July. On *Myoporum*, or bastard sandal tree.

(17) *Plagithmysus varians* Sharp.

*Plagithmysus varians* Sharp, *t. c.* p. 245 (excl. var.  $\gamma$ ).

HAB. Hawaii; Mauna Loa, Kilauea; Perkins. On *Acacia koa*.

This has been found in greater plenty than any other species and I have been able to examine about 200 individuals. The variation in the colour of the legs is of considerable interest. The extreme base of the femora being always yellow, the other parts vary. It may be said that the normal colour of the rest of the femur is black, but there are many specimens in which the apical third is bright red: all the intermediates between this state and the black form occur. The black and the red colours are not sharply delimited in these cases. There are two or three specimens in which the black colour is nearly entirely absent. And there is another, apparently very rare, variety, of an opposite character, in which the black colour is absent from the middle but present at the tips. There are only two or three examples of this variety known; and they resemble in this character *P. lamarckianus* rather than *P. darwinianus*. Though the black colour may be absent from either the tip or the middle it is never completely absent from both, there being no individual with quite red legs, though the black pigmentation is in a few cases but slight. In consequence of this deficiency these individuals bear a resemblance to *P. darwinianus* (in which species the legs are red). But these specimens do not approach *P. darwinianus* in other respects.

The former var.  $\gamma$  of *P. varians* is now *P. lamarckianus*.

(18) *Plagithmysus darwinianus* Sharp.

*Plagithmysus darwinianus* Sharp, *t. c.* p. 271.

(Plate VI. fig. 16; ♂.)

HAB. Hawaii; Kilauea, in August. On the "Mamane" tree *Sophora chrysophylla*, Perkins. In this species the legs never become black, but in some individuals—especially when the size is large—the red is somewhat darker, showing a very imperfect condition of blackness, analogous with that exhibited on the apical part of the femur

in some of the intermediate varieties connecting the forms of *P. varians*. In *P. darwinianus* the colour is however uniformly distributed.

It should be noticed that the red-leggedness of *P. darwinianus* is not due to mere deficiency of black pigmentation as compared with *P. varians*; for the black pigmentation of the wing-cases is much more extensive and decided than it is in even the darkest varieties of *P. varians*.

(19) *Plagithmysus lamarckianus*, sp. nov.

Rufo-flavus, antennis pedibusque rufis, femoribus basi flava, apice plus minus late nigricante; thorace vel nigro vel rufo, sat conspicue albido-vittato; elytris flavescens, dense punctatis, dorso late longeque nigro, singulo ad suturam linea albido-pubescente anterieus versus latus divergente. Long. 9—15 millim.

*Plagithmysus varians*, var.  $\gamma$ , Sharp, *t. c.* p. 245.

Var.  $\alpha$ , femoribus rufis.

This species is somewhat doubtfully distinct from *P. darwinianus*. The pubescence of the under surface and of the legs is less elongate, the antennae are slightly thinner and usually darker in colour towards the tip, and the legs are usually more or less broadly black. As minor distinctions we may mention that the elytra are usually broader at the base, and are there never distinctly marked with white hairs; their black portions and the white lines on them are usually a little more extensive; the thoracic crest is a little more elevated on its posterior part.

HAB. Hawaii; Kilauea, August 1896, on the "mamake" or paper-mulberry. Although this lives in the same locality as *P. darwinianus* it frequents different trees, being attached to the Urticaceous trees, *Pipturus albidus*, and *Urera sandwicensis*. I have seen 33 specimens; the varieties with entirely red femora are very similar to *P. darwinianus*, and it is possible that it may prove that the two forms are not distinct species when more specimens are obtained. There were several specimens of *P. lamarckianus* in the series I originally referred to *P. darwinianus*, and I am indebted to Mr Perkins for directing my attention to the fact that there are probably two distinct forms.

(20) *Plagithmysus albertisi* Sharp.

*Plagithmysus albertisi* Sharp, Ent. Mo. Mag. xxxiii. 1897, p. 12.

(Plate VI. fig. 17; ♂.)

HAB. Oahu; West Honolulu, Feb. 25th, 1874; Signor d'Albertis. There is reason to fear that this species may now be extinct.

(21) *Plagithmysus pulvillatus* Karsch.

*Clytarlus pulvillatus* Karsch, Berlin. ent. Zeit. xxv. 1881, p. 9, Pl. I. f. 14.

HAB. Maui; "Grove Rancho," Karsch; Haleakala, 5000 ft., Perkins. We have received only three individuals, and the species was described by Karsch on one female. It is one of the least attractive species, being remarkable for its uniform colour and freedom from definite ornamentation as well as for the very dense sculpture of the elytra. The species is probably verging on extinction owing to the destruction in this locality of the forest tree it inhabited. Insects are no longer to be found at Grove Rancho; but Mr Perkins procured his examples about 2000 ft. directly above its situation, on *Metrosideros polymorpha*.

(22) *Plagithmysus blackburni* Sharp.

*Clytarlus blackburni* Sharp, Tr. Dublin Soc. (2) III. 1885, p. 195, Pl. V. f. 47.

*Plagithmysus blackburni* Sharp, Ent. Mo. Mag. 1896, p. 271.

HAB. Hawaii; found by Mr Blackburn [on "*Acacia falcata*"] on Mauna Loa in May; by Mr Perkins at Kona in the autumn, on *Sophora chrysophylla*. The only variation that occurs in the colour of the legs is the one that I have mentioned as being so rare in *P. varians*.

(23) *Plagithmysus sulphurescens* Sharp.

*Plagithmysus sulphurescens* Sharp, Ent. Mo. Mag. xxxii. 1896, p. 271.

(Plate VI. fig. 17; ♂.)

HAB. Hawaii; Kilauea, July 1895. The name of the tree to which this species is attached is unfortunately not known.

Since *P. lamarckianus* has been distinguished from *P. varians*, it should be mentioned that *P. sulphurescens* is allied to the former more than to the second of these species.

(24) *Plagithmysus speculifer* Sharp.

*Plagithmysus speculifer* Sharp, t. c. p. 272.

HAB. Maui; head of the Jao Valley, June 1894. Unique. Food-tree unknown.

(25) *Plagithmysus aestivus* Sharp.

*Plagithmysus aestivus* Sharp, t. c. p. 272.

HAB. Molokai; in June and August, Perkins. On *Metrosideros polymorpha*.

(26) *Plagithmysus aequalis* Sharp.

*Plagithmysus aequalis* Sharp, Ent. Mo. Mag. 1896, p. 273.

HAB. Kauai; Mr Perkins procured a very large series of this species at Makaweli, January and February 1897, on *Acacia koa*. And I have also seen a few specimens from Waimea and Koholuamano.

This species is dimorphic as regards the colour of the legs, which are either red or black without intermediate states. The individuals with red legs are very numerous. Specimens with red thorax are very rare. The chief variations in these respects are as follows.

Var.  $\beta$ , pedibus capiteque rufis.

Var.  $\gamma$ , pedibus, capite thoraceque rufis.

I have not before me any specimens in which the legs are black without the head being so, but it is probable that such specimens occur, and, if so, would form var.  $\alpha$ .

Four individuals found in April 1895 form a variety with shorter thorax, having more rounded sides, with more white pubescence on the upper surface, and the posterior femora a little differently shaped. One of the two originally described females is a very peculiar individual and may perhaps belong to another species.

(27) *Plagithmysus munroi*, sp. nov.

Rufo nigroque variegatus; elytris rufis, singulo posterius plaga nitida nigricante, fere aequaliter ubique albido-guttulatis; thorace albido vittato, femoribus basi flava. Variat thorace femoribusque rufis, vel nigris. Long. 11—12 millim.

(Plate VI. fig. 19; ♀.)

Closely allied to *P. aequalis*, but with the elytra nearly evenly spotted all over with white flecks of pubescence, there being however a small area in front of the middle densely and finely punctured. There is no definite spot of white on the mesothoracic episterna. The hind legs are very long, the femora moderately thick, and there is extremely little difference between the sexes.

HAB. Kauai. We are indebted to G. C. Munro, Esq., for the discovery of this species: he obtained six specimens of it in July 1897, 2000 ft. above Waimea.

(28) *Plagithmysus arachnipes* Sharp.

*Plagithmysus arachnipes* Sharp, t. c. p. 274.

(Plate VI. fig. 20; ♀.)

HAB. Kauai. May 1895. Perkins. On *Acacia koa*.



Both sexes of this species may be readily distinguished from *P. aequalis* by the longer, slender basal part of the femora: as this part is pallid yellow in colour, the discrimination of the two species is easy, though apparently the two are closely allied.

(29) *Plagithmysus cristatus* Sharp.

*Clytarlus cristatus* Sharp, Tr. ent. Soc. London, 1878, p. 207.

*Plagithmysus cristatus* Sharp, Ent. Mo. Mag. 1896, p. 274.

(Plate VI. fig. 21; ♂.)

HAB. Oahu; Honolulu, Blackburn; on *Acacia koa*, Perkins.

In this species the hind femora are peculiar in shape, being much like what they are in *Callithmysus*. The legs are much more slender in the female than they are in the male. The specimen supposed to be *Clytus attenuatus* Boisd. in the collection of the British Museum is, as Mr Gahan surmised, a female of this species. Boisduval's name has however no sufficient claim to validity, as will be seen from his description, repeated here on p. 115.

CALLITHMYSUS Sharp.

*Callithmysus* Sharp, Ent. Mo. Mag. xxxii. 1896, p. 238.

(1) *Callithmysus microgaster* Sharp.

*Clytarlus microgaster* Sharp, Tr. ent. Soc. 1879, p. 103; Tr. Dublin Soc. (2), III. 1885, Pl. V. fig. 46.

HAB. Oahu; near Honolulu, 2000 ft., in June, very rare; Blackburn.

*Callithmysus microgaster* var. ? *hirtipes*, var. nov. Tibiis posterioribus minus elongatis, usque basin densissime pubescentibus.

HAB. Oahu: one individual on the ridge leading from the head of Pauoa Valley to the peak called Konahuanui, Oct. 31st, 1892. On *Bobea* sp.

Subfam. LAMIINI.

Group ACANTHOCINIDES.

LAGOCHEIRUS Thoms.

(1) *Lagocheirus obsoletus* Thoms.

*Lagocheirus obsoletus* Thoms, Class. Longic. 1860, p. 10.

*Lagocheirus araneiformis* var., Sharp, Tr. ent. Soc. London, 1878, p. 210.

HAB. Oahu. Apparently confined, so far as this archipelago is concerned, to the

island of Oahu. This form is now considered to be a distinct species, though it is extremely close to the S. American insect with which it was previously identified—as a small form—by the late Mr Bates and myself. Gahan considers that *L. longipennis* Bates is a mere synonym of *L. obsoletus*. The form is widely distributed, having been found in Loo Choo islands, Tahiti, the W. Indies, and Mexico.

Group *NIPHONIDES*.

PROSOPLUS Blanch.

(1) *Prosoplus bankii* Fabr.

*Lamia bankii* Fabr., Syst. Ent. p. 176.

*Micracantha insularis* Pascoe, Tr. ent. Soc. London (2), v. 1859, p. 40.

*Micracantha nutans* Sharp, Tr. ent. Soc. 1878, p. 209.

HAB. On the introduced Acacia, *Prosopis* sp. Probably on all the islands. Mr Perkins, knowing it not to be native, procured but few examples. The species is very widely diffused, having been found in Madagascar, Port Essington, Tondano, Amboyna. *L. bankii* was described as found at the Cape of Good Hope. The identification is due to an examination of the Banksian type in the collection of the British Museum made by Mr Gahan. The genera *Prosoplus* and *Micracantha* are considered by him to be one and the same.

Group *APOMECCYNIDES*.

APOMECCYNA Serv.

(1) *Apomeccyna pertigera* Thoms.

*Mecynapus pertigera* Thoms. Physis, 1. 6, p. 160.

HAB. Oahu. In a garden, Honolulu, November 1896, Perkins. Kauai, July 1897, Munro. The species comes from E. India and China.

Group *PTERICOPTIDES*.

OOPSIS Fairm.

(1) *Oopsis nutator* Fabr.

*Lamia nutator* Fabr., Mant. 1. p. 142.

*Stasilea curvicornis* Karsch, Berlin. ent. Zeitschr. xxv. p. 8, Plate I. fig. 12.

HAB. Probably on all the islands. Abundant at low elevations. Widely distributed in Polynesia, and found in Australia.

§ 3. Bibliographic List (arranged chronologically).

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2. MOTSCHOUJSKY, V. DE. Remarques sur la collection de Coléoptères russes de Victor de Motschoulsky. Bull. Soc. Moscou, XVIII. 1845, Pt. I. pp. 3—127, Plates I.—III.  
 P. 85, description of *Stenopterus pulverulentus*, Pl. I. fig. 2. Said to be from California.
3. ——. Observations sur le Musée entomologique de l'Université impériale de Moscou. *Op. cit.* 1845, Pt. II. pp. 332—388, Plates I., VII.  
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4. ——. Études entomologiques, 1852, p. 76.  
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5. SHARP, D. On some Longicorn Coleoptera from the Hawaiian Islands. Tr. ent. Soc. London, 1878, pp. 201—210.  
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6. ——. On some Coleoptera from the Hawaiian Islands. Tr. ent. Soc. London, 1879, pp. 77—105.  
 Two n. spp. of *Clytarlus*. Indicates, without naming, three genera.
7. HAROLD, E. VON. Einige neue Coleopteren. Mitth. München. ent. Ver. IV. 1880, pp. 148—171.  
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9. SHARP, D. On some new Coleoptera from the Hawaiian Islands. Tr. ent. Soc. London, 1881, pp. 507—534.  
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10. BLACKBURN, T. and SHARP, D. Memoirs on the Coleoptera of the Hawaiian Islands. Tr. Dublin Soc. 2nd ser. III. 1885, pp. 119—290, Plates IV. and V.  
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13. —. Supplement. *Op. cit.* xxxiii. 1897, p. 12.  
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14. PERKINS, R. C. L. A collecting trip on Haleakala, Maui, Sandwich Islands. Ent. Mag. xxxii. 1896, pp. 190—195.  
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Habits and variation of *Plagithmysides*.

## II. COLEOPTERA RHYNCHOPHORA, PROTERHINIDAE, HETEROMERA AND CIOIDAE.

By R. C. L. Perkins.

### COLEOPTERA RHYNCHOPHORA.

#### Fam. CURCULIONIDAE.

##### § 1. General Remarks on the Curculionidae<sup>1</sup>.

THE Curculionidae are represented by 137 species, and of these no less than 132 are at present only known from the islands. It is probable however that of the others some will be found to be not truly indigenous, so that we will first briefly review the various tribes with respect to these doubtfully indigenous forms. Of the Otiiorhynchini the species of *Rhyncogonus* are all peculiar to the islands, and the only one to which any suspicion can attach is *R. vestitus*, which in many respects is very different to, and indeed less remarkable than the others. It is the only species which frequents the low lands, and is found upon plants which are known elsewhere, whereas the others are all attached to the forest trees or plants which are themselves peculiar to the islands. Still on the whole we are disposed to consider it indigenous. The solitary species of *Pantomorus* on the other hand is certainly an introduced species, as we have found it in gardens in Honolulu, and on Maui it has increased to such an extent as at times to be injurious. The Cyladini are represented only by one species of *Cylas* known to occur elsewhere, and which is attached to a common coast species of *Ipomoea*. No doubt this beetle is a natural immigrant.

The Cryptorhynchini have 20 species of *Acalles*, certainly all indigenous, and two other species representing each a different genus. Both appear to be allied to *Acalles*, the one indeed closely allied, and there is no reason to doubt that both are indigenous.

The Calandrini have three species of *Calandra*, two being widely distributed outside the islands. The third is a remarkable species and is attached to cactus and banana, and although not known elsewhere it may well have been imported, and cannot safely be considered indigenous, nor even a natural immigrant. Besides these a single species of *Sphenophorus*, the well-known cane-borer of the sugar-planters, is known elsewhere, and is either an importation by man or a natural immigrant.

<sup>1</sup> For remarks on the Proterhinidae and other groups see subsequent pages.

The Cossonini are the most extensive and important representatives of the Curculionidae. The 46 species of *Oodemus* and the 10 of *Heteramphus* may be at once dismissed as being all indigenous, and the same may be said of the three allied species of *Anotheorus*, and the same number of *Nesotocus*. The 17 species of *Dryophthorus* are a varied assemblage and might be distributed in two or three genera, but there is no reason to suppose that any of them will be found elsewhere. The unique example which represents the genus *Orothreptes* and the hardly less rare species for which we have made the genus *Deinocossonus* are almost certainly indigenous, for they are mountain forms, attached to indigenous trees. The latter indeed appears to have already formed to some extent distinct races on several of the islands. The species for which the genus *Dysomma* is formed must also be considered indigenous, the unique example having been found by sifting dead leaves on the boggy summit of the Kauai mountains. Other two genera now described, each for a single species—*Thallatodora* and *Haloxenus*—are both found on the coast in logs of driftwood. It is probable that both will be found elsewhere, being natural immigrants. The two species of *Pseudolus* must both be excluded from the indigenous weevils; one is found freely in banana and cactus in company with *Calandra remota*, the other has been found in and near Honolulu only, and on one of these occasions in boards of foreign wood, which formed the floor of a room. The *Phloeophagosoma* is abundant in decaying wood of *Aleurites* at low elevations, in company with *Pentarthrum obscurum*, and both these species I have little doubt occur outside the islands. It may be noted that the *Aleurites* or candle-nut-tree produces but very few indigenous insects, and such as frequent it are mostly polyphagous species, and although the tree now forms in many localities a large part of the lower forest, I suspect that it has been comparatively but a short time in the islands, and was very probably brought there by the natives when they settled in the country. Another species of *Pentarthrum* found on the lowlands near Honolulu must also be considered as foreign. The third species of this genus is very different in appearance and structure to the others, and is truly indigenous, being confined to the mountain forests, where it is attached solely to the tree-ferns, which are so conspicuous a feature of these forests. Thus the species which in my opinion are foreign amount to 13, and are distributed in no less than nine genera, and it may be remarked that those Cossonini, which we consider as foreign, although they have not yet been obtained elsewhere, are all small and obscure insects such as have been little collected in most countries.

The indigenous Curculionidae on the other hand with their 123 species are distributed in 13 genera, which represent three tribes only—Otiorhynchini, Cryptorhynchini, and Cossonini. The genus *Rhyncogonus*, which was established by Sharp for the members of the first tribe, is not peculiar to the islands, and has since been found in New Zealand and other of the Pacific islands (*vide* Ent. Mo. Mag. 1899, p. 56).

The Cryptorhynchini have two genera peculiar, each with only one species

known, but the great majority of the species belong to the widely distributed genus *Acalles*.

Of the Cossonini, *Oodemas*, *Heteramphus*, *Anotheorus*, *Nesotocus*, *Dysomma*, *Deinocossonus*, and *Orothreptes* are all genera peculiar to the islands, and it is probable that some members of the genus *Dryophthorus* will at some time be separated as distinct, while the rest will remain in that or be placed in very closely allied genera. The indigenous *Pentarthrum* is a remarkable insect, very different to the two foreign exponents of the genus, but said to be allied to New Zealand forms (Sharp, Tr. ent. Soc. Lond. 1878, p. 25). Thus nine of the 13 genera of indigenous Curculionidae are peculiar to the islands, while *Rhyncogonus* with its numerous species probably originated in the Pacific region and will be found to be widely distributed therein. With regard to *Acalles* Sharp has remarked (Tr. Dublin Soc. 1885, p. 269) that it "is one of the most frequent components of insular faunae, being very richly represented in New Zealand, Polynesia, and the Atlantic islands."

**Distribution** of genera and species in the islands. Of the six genera which contain each but a single species, the two Cryptorhynchids, *Hyperomorpha* and *Chae-nosternum*, have both been found on Oahu alone, and the Cossonideous genera *Dysomma* and *Orothreptes* are peculiar, the first-named to Kauai, the latter to Hawaii, whereas *Deinocossonus* is probably to be found on all, since it has been taken on Kauai and Hawaii at either end of the group as well as on the intermediate island of Oahu, and the indigenous *Pentarthrum* is likewise ubiquitous. It must however be remembered that all the above-named insects, excluding the *Pentarthrum*, are excessively rare and difficult to procure, so that more extended observations might show that those apparently peculiar to one island also occur on some of the others. *Nesotocus* has been found alive on Kauai, Maui and Hawaii, and fragments also on Molokai, so that it is no doubt of general distribution, but *Anotheorus* is wanting on Hawaii, its range being from Kauai to Maui. The distribution of *Heteramphus* is similar to that of *Anotheorus*, except that whereas we failed to collect the latter on Molokai, so *Heteramphus* was not found on Lanai, but both are found on the neighbouring island of Maui. The extensive genera *Oodemas* and *Dryophthorus* are ubiquitous over the group, as also is *Acalles*, but *Rhyncogonus* apparently becomes scarcer on the windward islands, and is altogether absent from Hawaii.

The species of the genus *Rhyncogonus*, excepting only *R. sordidus*, which was found alive on Lanai and in fragmentary condition on Molokai, are confined each one to a single island, and of the 19 species Kauai has no less than nine, Oahu four, Molokai three, Lanai and Maui two each, whilst Hawaii, as has been remarked, has none.

Of the 20 species of *Acalles* the three islands, Kauai, Oahu and Hawaii have each four species, and Maui and Lanai three each, while one species is found throughout the

group, and another has occurred on three of the intermediate islands. These figures are however subject to correction, for the Hawaiian species of *Acalles* are excessively difficult to collect, and some of them exhibit considerable variability, so that it is neither certain that all the species described are certainly distinct, nor that the forms from different islands assigned to a single species are really identical. The species of *Dryophthorus* appear to be less restricted in their distribution; Kauai has six, Oahu two, and Hawaii one peculiar species, but the remaining eight are found on two or more of the islands; three indeed are found throughout the group.

The extensive genus *Oodemas* has no less than 46 species, and is most richly represented on Kauai, which has 18 species peculiar to it. Oahu and Maui each have just half as many peculiar, whilst Hawaii, Lanai and Molokai have respectively three, two and one. The remaining four species occur on two or more of the islands, but neither of them is found on Kauai.

*Heteramphus* would appear to have its head-quarters on Oahu, where are five of the ten known species, and these five are all peculiar to it; Maui has three species peculiar, and Molokai and Kauai each have one; that on the latter island would have to be separated generically were it not connected by the Oahuan *H. hirtellus* with the more usual forms. Three of the Oahuan species are usually found in company on *Astelia veratroides*, but would appear to be of extremely restricted range within that island, since they are not to be found in many places where the plant is extremely abundant, nor have we found any species attached to the *Astelia* on the other islands, the Molokai form having been obtained from wet moss, and the others from wet decaying logs. No species of this genus has been found on the large island of Hawaii.

*Anotheorus* has one species quite peculiar to Kauai, Oahu likewise has one, but it is very closely allied to the Maui form, and as both vary, I have some doubt as to their being distinct. A single example from Lanai agrees best with the Maui species.

The extraordinary genus *Nesotocus* has one species peculiar to Kauai and one to the Western range of mountains on Maui, the third has been taken both on Haleakala, the Eastern division of this island, and also on Hawaii.

The remaining indigenous species have been sufficiently referred to above under the genera to which they belong.

The percentage of the indigenous species of Curculionidae peculiar to the several islands is given in the table.

	Species peculiar to.	Total number of species found upon.	Percentage of species peculiar to.
Kauai	41	48	85
Oahu	27	39	69
Molokai	4	16	25
Maui	18	31	58
Lanai	6	19	31
Hawaii	9	20	45



These figures fully show the remarkable character of the Kauai fauna in this family of Coleoptera. Not only is it considerably the richest in species, but the percentage of peculiar species is much higher than is the case with any other island. Moreover the species themselves are in many cases highly remarkable, as compared with those of the same genus on the other islands. Thus in *Oodemus*, *O. longirostre*, *O. costatum*, *O. striatum*, *O. pulchrum*, are species of the most highly evolved form, each in its own particular direction. So also the Kauai species of *Rhyncogonus* form a remarkable series. These facts suggest the probability that the ancestors of the now existing fauna of Curculionidae may, at least to a large extent, have first gained a footing on this island, possibly at a time when some of the more recent islands were not adapted for the mode of life of these creatures, or possibly even before these islands existed at all. This suggestion is strengthened by a consideration of the condition of the weevils on the other islands; thus Oahu comes second both in number of species and in the percentage of those peculiar to it, and it is noteworthy that a number of the most remarkable forms are found in what yet remains of the once fine forest of the Waianae range, itself one of the oldest portions of the whole group of islands. Very different is the case with Hawaii, which from its large size, lofty mountains, and very varied climate, as well as its position at the end of the series of islands, might be expected to have a large number of remarkable forms. This however is not the case, for it is not only altogether wanting in *Rhyncogonus*, *Heteramphus* and *Anotheorus*, but it possesses but three or four species of *Oodemus*, and these of the most commonplace forms. In the group we are now considering the condition of the fauna of the big island contrasts curiously with its Aculeate Hymenoptera, which are both richly represented and remarkable; indeed it is not necessary to go beyond the order of Coleoptera to see a similar contrast, for the indigenous Cerambycidae are well represented there and some of the forms are amongst the most remarkable of those found in the group.

**Variation.** We have already when dealing with the Aculeate Hymenoptera, Neuroptera and Orthoptera remarked on the variability of so many of the island species. Not less remarkable is this in the case of the Curculionidae. Mr Blackburn in describing the species of *Oodemus* notes that their variability in certain points is embarrassing to the describer, and with a large collection this becomes so much so, that in many cases it is almost impossible to write a description which will apply in all respects to every individual specimen. This variability too is not confined to superficial and trivial characters, but affects those which are considered of decided importance for the separation of species. Even structures which are almost always constant vary in some species, as for example parts of the prosternum in some species of *Oodemus*. We may observe that there is no doubt as to the examples which exhibit this variability belonging to the same species, and we are excluding from consideration such a species as *O. multiforme* of Hawaii, which may possibly include several allied and variable species; but is more

probably one which is now in the process of becoming divided into several, the division not yet being complete. Some of the species of *Rhyncogonus* too are variable, as also are those belonging to the genera *Dryophthorus* and *Heteramphus*, and there is no doubt that many of the species of *Acalles* will prove to be equally so, when they have been collected in numbers sufficient for an investigation on this point.

The Curculionidae of the islands are as a whole remarkably isolated. The *Rhyncogoni* of the Otiorynchini and the solitary indigenous species of *Pentarthrum* and *Orothreptes* all probably originated in the Pacific islands, for the latter appears to be most allied to the New Zealand *Sericotrogus*, although this alliance is by no means close. The very important Cossonideous genera *Oodemas*, *Anotheorus*, *Heteramphus* and *Nesotocus*, on the other hand, are of quite uncertain origin, no near ally to any of these forms having been found elsewhere. Indeed great as are the differences between the first three of these genera it would appear that they are at least as closely connected *inter se* as they are with anything outside the islands. Thus some of the species of *Oodemas*, entirely different as they are in facies, do make some approach to *Heteramphus*, while *Anotheorus* and *Oodemas* appear to be more nearly allied.

Wollaston remarks that metallic colouring is of rare occurrence in the Cossonini, so that it is worthy of note that no less than 49 species, in fact all the members of the genus *Oodemas* and *Anotheorus*, are so coloured. The extreme similarity in colour and clothing between the very diverse genera *Orothreptes* and *Deinocossonus*, is quite extraordinary, both being clothed with a golden pubescence, in which they greatly resemble the New Zealand *Sericotrogus*, although *Deinocossonus* does not even belong to the same section of the Cossonini as the other two.

## § 2. Systematic account of the Curculionidae.

### Tribe OTIORHYNCHINI.

#### RHYNCOGONUS Sharp.

##### (1) *Rhyncogonus nitidus*, sp. nov.

Niger, nitidus, supra fere glaber. Caput cum pronoto laeve, et distincte punctatum. Elytra nitida, seriatim punctata. Abdominis segmentum ventrale apicale ♂-is latum, opacum, pubescens, densissime punctatum, apice truncato, ♀-ae nitidum, parcius pubescens, apice angusto, subacuto. Long. 12—17 mm. (Plate VII. fig. 1.)

Black, smooth, and shining, often with a small spot of pale pubescence on each side of the thorax at the base, the ♀ generally larger and more robust than the ♂.

Head and thorax distinctly and rather finely punctured, the punctures of unequal size ; second joint of the antennae rather longer than the third. Elytra shining, each with about 12 rows of punctures dorsally, more strongly attenuate towards the apex in the ♀ than in the ♂, and in the former sex with the edges flattened for some distance from the shoulders. Abdomen beneath coarsely punctured at the base, and widely depressed in the ♂, finely punctured and but little depressed in the ♀. Apical ventral segment of the ♂ dull, finely and densely punctured, pubescent but not very densely so, the apex very broad and subtruncate. In the ♀ this segment is shining, clothed with inconspicuous, and very short pubescence, subtriangular and narrowly rounded at the apex.

HAB. Kauai Mountains (3000 ft.).

(2) *Rhyncogonus funereus*, sp. nov.

Niger, subnitidus, supra haud pubescens. Caput strigosum et punctatum. Prothorax dense rugoso-punctatus. Elytra grosse punctata. Antennarum articulus secundus tertio multo brevior. ♂. Long. 12.5 mm.

Black, with the surface shining, and coarse sculpture. Head strongly strigose, and punctured. Second joint of the antennae much shorter than the third. Thorax strongly and densely rugosely punctured, its sides hardly rounded, subparallel. Elytra shining, subdepressed, without pubescence, coarsely punctured, the interstices narrow, irregular. Posterior femora with a transverse spot of pale pubescence outwardly about the middle ; tibiae, tarsi and apex of the rostrum with fine pubescence.

HAB. Oahu, Waianae mountains. A single ♂, found dead and somewhat mutilated, beneath bark.

(3) *Rhyncogonus squamiger*, sp. nov.

Niger, nitidus, antennis, tibiis, tarsisque rufescentibus. Caput cum prothorace tenuiter pubescens. Elytra squamulis pallidis, plus minusve seriatim dispositis, vestita. Antennarum articulus secundus tertio multo longior. ♀. Long. 14 mm. (Plate VII. fig. 2.)

Black and shining, the antennae and all the tibiae and tarsi of an obscure reddish colour. Head with a thin clothing of short pale hairs which become scale-like, and form a pale mark around the inner and posterior margins of the eyes, rugosely punctured. Antennae with the first joint of the funiculus very long, considerably longer than the second, the club unusually long and slender, its terminal evidently longer than its basal joint. Thorax with sparse pubescence above, but forming a rather denser line along each side, as wide as long, its sides rather strongly rounded, the surface shining and

closely punctured. Elytra with regular rows of very closely-set punctures, the interstices narrow, and very smooth and shining; along the striae there are rows of minute pale scales for the most part placed singly, but in places, especially at the shoulders, and towards the apex of the elytra, forming more or less dense patches.

HAB. Kauai Mountains near Lihue (3000 ft.); 1 ♀ taken.

(4) *Rhyncogonus stygius*, sp. nov.

Niger, capite strigoso et punctato. Antennarum articulus secundus et tertius subaequilongi. Elytra opaca, pube inconspicua et brevissima vestita, seriatim punctata, interstitiis tuberculis minutissimis, rare dispositis, munitis. Long. 12.5—15 mm. (Plate VII. fig. 3.)

Black, the antennae, tibiae, and tarsi sometimes with a reddish tinge. The head is strigose and punctured, the antennae have the second and third joints nearly equal in length, the apical joint of the club is evidently shorter than its basal one. The thorax is densely punctured, and has a small pale pubescent spot on each side at the base. The elytra are quite dull, each with about a dozen regular rows of punctures dorsally, and clothed with an excessively short pubescence, usually hardly visible without close examination, but in some examples sufficient to give the surface a slightly greyish appearance. The interstices are furnished with minute scattered tubercles, which are slightly less dull than the general surface. The intermediate and posterior femora have a distinct patch of pale pubescence outwardly.

HAB. Kauai, Halemanu (4000 ft.).

(5) *Rhyncogonus minor*, sp. nov.

Niger, parum nitidus, capite pubescentia pallida parcius vestito. Antennarum articulus secundus tertio vix longior. Prothorax utrinque linea pubescentiae pallidae continua ornatus. Elytra, humeris et parte apicali exceptis, haud pubescentia. ♀. Long. 10.5 mm.

In general sculpture this species bears a strong resemblance to the preceding, but it is a much smaller insect and it is comparatively less elongate. The pubescence of the elytra is confined to some scanty patches at the extreme base, and a very sparse clothing on the apical portion. Their surface is evidently less dull, and except towards the sides and apex there are no evident minute tubercles on the interstices. Their form is different, for they are much more suddenly narrowed to the apex, the narrowing beginning only about one-third of their length from the apex. The front of the head is evidently more pubescent, and there is a wide and distinct stripe of pubescence on

each side of the thorax from base to apex. In the ♀ (the only sex obtained), the dorsal edges of the elytra are very evidently flattened for a considerable distance from the base. The puncturation of the whole insect, allowing for the difference in size, does not materially differ from that of *R. stygius*.

HAB. Kauai Mountains (4000 ft.); 1 ♀ taken.

(6) *Rhyncogonus molokaiensis*, sp. nov.

Niger, subnitidus, antennis pedibusque saepe rufescentibus. Caput circa basim dense subtilius punctatum. Antennarum articulus tertius secundo vix brevior. Prothorax dense (nec grosse) punctatus, macula utrinque ad basim pubescente ornatus. Elytra subnitida, fere glabra. Long. 9.5—12 mm.

Black, and somewhat shining, the legs and antennae more or less of an obscure red colour. The head is closely and finely punctured at the base, the second joint of the antennae subequal to, or rather longer than, the third. Thorax densely, but not coarsely, punctured; the punctures, however, are much larger and stronger than those at the base of the head. There is a very distinct smooth median dorsal line extending from base to apex, and a small spot of pale pubescence on each side at the base. The elytra are not very dull, and are almost without pubescence, and the surface is slightly roughened by delicate corrugations proceeding from the punctures. In both sexes the two apical segments of the abdomen beneath are clothed with pubescence, which is very dense on the apical one. The other segments have only very sparse and minute hairs. In the ♂ the apical segment is broad and truncate, in the ♀ narrow and somewhat pointed at the apex, as is usual throughout the genus.

HAB. Molokai, mountains (3000 ft.); rare.

(7) *Rhyncogonus dubius*, sp. nov.

Niger, vix nitidus, elytris vix evidententer pubescentibus, ♂ praecedenti cognatissimus, capite circa basim haud dense punctato, elytris magis corrugatis, distinguendus. ♂. Long. fere 10 mm.

I have seen only a single ♂ of this species, which is closely allied to that of *R. molokaiensis*, but apparently distinct. The front of the head (including the rostrum) is by no means densely punctured, and at the base the punctures are larger and much more sparing. The smooth dorsal line on the thorax is much more definite, and the surface of the elytra less smooth, owing to the stronger corrugations.

HAB. Molokai, Kalae (1700 ft.); 1 ♂ taken.

(8) *Rhyncogonus freycinetiae*, sp. nov.

Niger, subnitidus, elytris vix pubescentibus, capite circa basim minus dense punctato. Prothorax latus, trans medium evidenter latior quam longior, lateribus linea pubescentiae continua ornatis. Elytra subnitida, interstitiis laevioribus. Abdominis segmentum tertium ventrale ♀ aequae ac quartum pubescens. ♀. Long. 11 mm. (Plate VII. fig. 4.)

Female black, and somewhat shining, in general appearance very like that of *R. molokaiensis*. From that species it may easily be distinguished by the less close puncturation of the base of the head; the much wider and more depressed thorax, with continuous lateral lines of pubescence. The ventral surface of the hind body is also more pubescent, the third segment hardly less clothed than the fourth.

HAB. Oahu, Halemano (2000 ft.); 1 ♀ taken at the bases of the leaves of *Freycinetia*.

(9) *Rhyncogonus blackburni* Sharp.

*Rhyncogonus blackburni* Sharp, Tr. Dublin Soc. III. (Ser. II.) p. 177.

HAB. Oahu, mountains near Honolulu (Blackburn); 1 ♂ in the same locality (2000 ft.).

(10) *Rhyncogonus koebelei*, sp. nov.

Niger, haud nitidus, antennis pedibusque rufescentibus. Caput sublaeve, sparsim punctatum. Prothorax subtilissime pubescens, densissime rugoso-punctatus, lateribus fortiter rotundatis. Elytra peropaca, parcissime pubescentia, apicibus liberis. ♂. Long. 11 mm. (Plate VII. fig. 5.)

Dull blackish, the antennae and all the legs dull reddish. Head smooth and shining, sparsely punctured, the eyes very little prominent. Second joint of the antennae rather longer than the third, the basal joint of the club longer than the apical. Thorax very finely pubescent, densely rugosely punctured, its sides strongly rounded. Elytra dull, with very little pubescence, the puncturation somewhat irregular, their apices free, subdivergent. All the femora clothed with very short pubescence, that on the tibiae longer. Apical ventral segment of the hind-body widely truncate at the apex, densely clothed with pale pubescence. The species is very remarkable for the condition of the eyes, which are much less prominent than in any other.

HAB. Oahu, mountains near Honolulu (2000 ft.); 1 ♂ taken by Mr A. Koebele, whilst collecting with me.

(11) *Rhyncogonus kauaiensis*, sp. nov.

Niger, vel plus minusve rufescens, capite et corpore toto subtiliter griseo- vel rufo-pubescente. Caput strigosum et punctatum. Prothorax dense punctatus, utrinque vitta pubescente ornatus. Elytra vix opaca, subtiliter pubescentia. Long. 10—13 mm.

Colour varying from black to reddish brown. The male generally much depressed, the ♀ more convex, but neither sex is constant in this respect. Head more or less strigose and punctured, clothed all over with fine pale hairs, which form a denser line around the inner margins of the eyes. Thorax densely punctured, clothed with fine pubescence like that of the head, and on each side with a line of dense pale pubescence. Elytra usually more or less shining, but much duller in some examples than others, clothed with fine grey or reddish pubescence, the series of punctures for the most part distinct, but towards the sides becoming more or less confused, and the surface more or less rough, often tuberculate. The pseudopleural region of the elytra always with conspicuous patches or spots of dense pubescence.

HAB. Kauai (4000 ft.); 15 examples taken. Apparently a very variable species.

(12) *Rhyncogonus sordidus*, sp. nov.

Niger, vel subrufescens, opacus, subtiliter pubescens, capite punctato. Prothorax dense nec grosse punctatus. Elytra opaca, pubescentia, seriatim punctata, lateribus maculis pubescentibus haud ornatis. ♂♀. Long. 10—12 mm.

The colour of this species varies from black to obscure red. The front of the head and rostrum is almost without pubescence, the puncturation of the latter is usually not very close and it shows little or no trace of longitudinal strigosity, its surface is more or less flattened or depressed. The thorax is densely, but not coarsely, punctured, more or less impressed near the base, clothed with very short and fine pubescence, and with a line of denser and rather longer hairs on each side, but even in fresh examples these lines are obscure. The elytra have a very fine pubescence, which is more conspicuous in the ♀, and of a reddish colour. Their surface is dull, but not rough, and the punctures towards the sides remain quite distinct, although the series may be more or less confused. On their deflexed portion there is no trace of spots or lines of dense pubescence, such as are found in the preceding species. In the ♂ the apical ventral segment only of the hind-body is densely hairy, the others but sparsely so, the two basal more or less strongly impressed.

HAB. Lanai, mountains (3000 ft.). A short and rather variable series taken. The relative length of the second and third joints of the antennae appears to vary, as also the puncturation of the insect. Fragments of a *Rhyncogonus* found on Molokai are probably referable to this species. In one spot these were very abundant, but the species had no doubt been extinct (so far as that particular locality is concerned) for years, the vegetation consisting only of small stunted bushes.

(13) *Rhyncogonus lanaiensis*, sp. nov.

Forma, facieque praecedentis; ♂ oculis fortiter prominentibus, abdominis segmentis ventralibus tribus apicalibus dense pubescentibus distinguendus. ♂. Long. 11.5 mm. (♀ ? 14 mm.)

Extremely like the preceding, but distinct by the strongly prominent eyes. The ♂ also differs in having the three apical ventral segments of the hind-body densely pubescent, and the head somewhat strigose, as well as punctured. The first joint of the funiculus of the antennae is considerably longer than the second.

A single ♀ probably belongs to this species. It differs from the preceding in its larger size, more prominent eyes, and the rather more pubescent ventral segments of the hind-body.

HAB. Lanai (2000—3000 ft.); 1 ♂ and 1 ♀.

(14) *Rhyncogonus lahainae*, sp. nov.

Nigricans, pubescentia pallida vestitus, pedibus antennisque rufescentibus; ♂ thorace densissime punctato, interstitiis nitidis. Elytra pubescentia, sensim ad apices attenuata. ♂. Long. 10.5 mm.

Blackish, the antennae, tibiae, tarsi, and more or less of the femora, red. The surface of the rostrum (♂) is somewhat smooth, punctured, but not strigose, and with a scanty short pubescence. The antennae have the first joint of the funiculus evidently longer than the second. The sides of the prothorax are rounded, its surface smooth and shining between the dense punctures, and clothed with short fine pubescence, which at the sides becomes longer and coarser, and forms a somewhat indefinite lateral band on each side. The elytra are dull, and on each there are five or six lines of pale pubescence, which are not very distinct, and due to the fact that the interstices are alternately more densely or more sparsely clothed. The puncturation is distinct throughout, but the second and third series originate at some distance from the base of the elytra.

HAB. Maui, mountains behind Lahaina (3000 ft.); 1 ♂ taken.

(15) *Rhyncogonus depressus*, sp. nov.

Niger, densius pallido-pubescent; ♂ fortiter depressus. Rostrum pubescentia tectum, strigoso-punctatum. Pronotum cum elytris pubescens, nitidum; elytra seriatim punctata, tuberculisque minutis asperula. Long. 10.5—13.5 mm. (Plate VII. fig. 6.)



Black, the whole insect clothed with somewhat dense pale pubescence, which is rather in the form of very fine elongate scales, and to a large extent conceals the surface, which is shining. The head in front is strigose and punctured; the prothorax densely punctured, the sides not at all strongly rounded, the surface shining, and with a smooth narrow dorsal line, the sides more densely pubescent than the general surface. The elytra in the ♂ are much depressed, with closely-set series of punctures, the surface where not hidden by the pubescence, shining, and roughened with small tubercles. All the legs clothed with pubescence, that on the front tibiae, as well as that of the scape of the antennae, longer and more conspicuous than that of most of the species. The single ♀ which probably belongs to this species is much less depressed, and has a shorter club to the antennae, its middle joint being not longer than wide, and the joints themselves less distinct.

HAB. Kauai, Halemanu (4000 ft.); 3 ♂ and 1 ♀.

(16) *Rhyncogonus vittatus*, sp. nov.

Niger, antennis pedibusque saepe plus minusve rufescentibus. Caput cum pronoto squamulis pallidis vestitum. Elytra tuberculis nitidis asperula, fasciis longitudinalibus pallidis ornata. ♂ ♀. Long. 10—11 mm. (Plate VI. fig. 7.)

Black, the antennae and legs often more or less red or piceous. The ♂ is very strongly flattened or depressed, the ♀ sometimes of more convex form. The head is strigose and punctured, but the surface is for the most part concealed by the covering of scales and hairs. The sides of the prothorax are but little rounded, and slightly convergent in front, the surface densely punctured and concealed by the pale squamous pubescence. The elytra have each about six distinct longitudinal bands, formed of minute pale scales, the spaces between these bands being sparsely clothed with similar scales. The surface is roughened by shining tubercles, and the puncturation much obscured. All the legs and the antennae are clothed with pale hairs. In both sexes the entire ventral surface of the hind-body is conspicuously pubescent, but the basal segments are less densely clothed than the apical.

HAB. Kauai, mountains (3000 ft.); not common.

(17) *Rhyncogonus tuberculatus*, sp. nov.

Minor, haud nitidus, totus pubescens, nigro-piceus, antennis pedibusque rufescentibus. Caput strigosum. Elytra tota fusco-pubescentia, seriatim punctata, tuberculis rare dispositis munita, apicibus haud liberis. ♂ ♀. Long. 8.5—9 mm.

A small species, entirely clothed with fuscous pubescence, the ♂ strongly depressed. Head strigose; antennae with the first joint of the funiculus subequal to the second; in

the ♂ these joints are unusually short, and either of them is only about the length of the basal joint of the club. The sculpture of the prothorax is largely concealed by the pubescence, its surface is roughened by minute tubercles, and the puncturation is indistinct. The elytra are seriatly punctured, and entirely covered with pubescence, which shows no tendency to form lines, and are united to the extreme apex. There are very distinct tubercles sparsely scattered over the surface, many of which terminate in a single short bristle. The apical ventral segment of the hind-body in the ♂ is of a reddish colour, densely pubescent, and truncate at the apex. The rest of the ventral surface is conspicuously, but less densely, pubescent.

HAB. Kauai, Halemanu (4000 ft.); 1 ♂ 1 ♀ taken.

(18) *Rhyncogonus sylvicola*, sp. nov.

Minor, niger, vix nitidus, pubescens, prothorace subelongato, rugoso-punctato. Elytra ad basim prothorace latiora, tuberculis rare dispositis munita, apicibus breviter liberis. ♀. Long. 9—9.5 mm.

Allied to the preceding, but blacker in colour, and the surface less dull. The prothorax is evidently longer, and its puncturation, which is dense and rugose, is distinct. The elytra have scattered tubercles much as in that species, but they are evidently wider at the base, so that the humeral angles stand out somewhat from the hind angles of the prothorax, and their extreme apices are free.

HAB. Kauai, Halemanu (4000 ft.); 2 ♀ taken.

(19) *Rhyncogonus vestitus* Sharp.

*Rhyncogonus vestitus* Sharp, Tr. Dublin Soc. III. 1885, p. 177.

(Plate VII. fig. 8.)

HAB. Maui. Very abundant on the sandhills between the mountains of East and West Maui, but not found elsewhere.

PANTOMORUS Schönherr.

(1) *Pantomorus olindae*, sp. nov.

Nigricans, squamis pallidis vestitus. Capitis pars praeantennalis longitudinaliter impressum, post hanc linea impressa mediali sat distincta. Antennarum articulus secundus tertio multo brevior. Oculi fortiter convexi. Pronotum pallidis squamis celatum, lateribus parum rotundatis. Elytra substriata, striis confertim punctatis,

squamis pallidis necnon postice setulis pallidis brevissimis vestita, lateribus fusco-squamosis. Abdominis segmenta ventralia subtilissime rugulosa, vix evidenter punctata. Long. (cum rostro) 8—8.5 mm.

This species is found in Honolulu, and is sometimes very abundant at Makawao and Olinda, Maui, and is found as high up as 5000 ft. on Haleakala. It differs from *Pantomorus* proper in having the antennal scrobes less deep and less definitely marked posteriorly.

HAB. Oahu and Maui; no doubt an imported species.

Tribe *CYLADINI*.

CYLAS Latr.

(1) *Cylas turcipennis* Boh.

*Cylas turcipennis* Boh. Sch. Gen. Curc. I. p. 369.

HAB. Oahu and Maui; coast.

Tribe *CRYPTORHYNCHINI*.

ACALLES Schönherr.

(1) *Acalles lateralis* Sharp.

*Acalles lateralis* Sharp, Tr. Dublin Soc. III. 1885, p. 178.

(Plate VII. fig. 9, ♂.)

HAB. Oahu etc. The typical specimens are from Oahu; I have taken others which must be referred to this species, on Kauai, Molokai, Maui, and Hawaii. Very scarce. The insects of this genus are with one or two exceptions extremely difficult to procure, being generally taken singly, and in very different conditions as regards the covering of scales; this, added to the fact that they are certainly variable in colour, size etc., makes a comparison of allied forms very difficult. It is quite possible that there are several species very closely allied to *A. lateralis*, the number and condition of the examples taken making it impossible to decide on this point. The single pair taken on Kauai are very large (5 mm. excl. rostr.), the male has the prothorax wider and more strongly constricted in front, and the prominences caused by the unevenly raised interstices of the elytra are more strongly developed. The ♀ has the rostrum black, the thorax wider, and the prominences on the elytra stronger than those of typical *A. lateralis*.

(2) *Acalles humeralis*, sp. nov.

Minor, haud latus, squamis pallidis (griseis vel subferrugineis) vestitus, antennis rostroque plus minusve rufescentibus. Pronotum totum squamis pallidis vestitum, medium sulcatum, antice constrictum, ♂-is sat latum, trans medium vix minus latum quam longum, ♀-ae fortiter elongatum, lateribus minus fortiter rotundatis. Elytra squamis pallidis vestita, ad humeros utrinque macula nigra distincta ornata, striis distinctis, obscurius punctatis, interstitiis omnibus convexis, secundo (praecipue ♂) fortiter inaequaliter elevato.

♂ ♀ Long. (rostr. excl.) 3—3.5 mm.

Allied to *A. lateralis* but quite distinct.

HAB. Maui, Haleakala (4500 ft.); one pair taken together.

(3) *Acalles callichroma*, sp. nov.

Haud latus, niger, rostro, antennis, tarsis, tibiis et tibiis anticarum parte apicali, rufis. Rostrum basis squamis albescentibus, caput ferrugineis ornatum. Pronotum elongatum, antice constrictum, medium sulcatum, squamis ferrugineis nigrisque variegatum. Elytra ad basim plaga magna nigra ornata, post hanc fascia transversa pallida, ad latera dilatata, tum fascia transversa nigricante, parte apicali pallide squamosa, maculis nigris ornata; interstitiis primo et tertio haud convexis, secundo fortiter interrupte elevato, partibus elevatis squamis nigris erectis densissime vestitis, quarto, quinto et sexto elevatis, striis haud evidenter punctatis.

♀ Long. rostr. excl. 3.5 mm. (Plate VII. fig. 10.)

HAB. Hawaii, Kilauea, July 1895; one example taken.

(4) *Acalles melanolepis*, sp. nov.

Haud brevis, niger, antennis, rostro, tarsisque rufescentibus. Caput cum pronoto nigro-squamosum, hoc vitta laterali albida utrinque ornato. Pronotum angustum, elongatum, antice minus fortiter constrictum, obscurius longitudinaliter sulcatum, sulco medio plagam laeviore elongatam rubricolorem ferente. Elytra nigro-squamosa, post media macula albida, trans suturam posita, ornata, interstitio 2° et 4° sat evidenter nec fortiter elevatis, squamis erectis vestitis, 1° et 3° parum convexis, striis obscure punctatis. Femora omnia nigro-squamosa, squamis suberectis albidis conspersa, maculis vel cingulis pallidis carentia. Long. (rostr. excl.) circa 3 mm. (Plate VII. fig. 11.)

In this species the elytra except for the well-marked transverse white spot, beyond the middle, are nearly entirely clothed with black scales, but there is an indication of an obscure paler area on each side extending from behind the shoulders towards the suture. The sides as seen from above are simply rounded from the shoulders, and not at all irregular. The second and fourth interstice are evidently more strongly raised than the first and third, the first being hardly, and the third but little convex. The second is slightly unevenly raised, and is densely clothed with erect black scales at the base and again just before the region of the transverse white spot, which accentuate the appearance of inequality. The most conspicuous feature of the species is the smooth red lanceolate space lying between the inner ridges of the prothorax, and the entirely black appressed scales of the femora.

HAB. Hawaii. A single example taken at Kilauea.

(5) *Acalles frater*, sp. nov.

Praecedenti simillimus, nigro-squamosus, rostro rufo, antennis, tarsisque testaceis. Pronotum squamis ferrugineis supra maculatum, sulco medio plagam rubram haud ferente. Elytra plaga ferrugineo-squamosa fasciam latam formante ornata, apice squamis ferrugineis variegato. Femora media distincte pallide cingulata. Long. (rostr. excl.) circa 3 mm.

Very closely allied to *A. melanolepis*, but the thorax is without the red smooth lanceolate area between the inner ridges, and is ornamented above with ferruginous spots, and the elytra have a large lateral band of similarly coloured scales, extending from behind the shoulders, and forming a wide transverse fascia which is less distinct towards the suture; their apex is also variegated with paler scales. All the femora have a pale band of appressed scales at the base and another about the middle.

A single example from Molokai is very similar to the above but the pale scales of the thorax and elytra are greyish, the transverse fascia of the latter less defined, the antennae, rostrum and tarsi much less clearly coloured, and the thorax evidently shorter. The difference in the latter respect is probably sexual, but I suspect that the two forms are distinct, though very closely allied.

HAB. Maui, Haleakala (5000 ft.); one example. Var. on Molokai (4000 ft.); one example.

(6) *Acalles koae*, sp. nov.

Haud brevis, rostro piceo, antennis tarsisque rufescentibus. Rostris basis cum capite antico pallide squamosa. Pronotum angustum, elongatum, antice constrictum, postice angustatum, longitudinaliter sulcatum, sulco medio obsolete carinato, squamis

fulvescentibus depressis, erectisque nigris vestitum. Elytra in parte basali squamis albescentibus vestita, nigro variegata, post hanc fascia transversa nigra, maculaque alba trans suturam posita, apice fulvo-squamoso; interstitiis 2° et 4° minus fortiter elevatis, 1° et 3° haud convexis, striis (squamis haud remotis) impunctatis. Femora nigro-squamosa, media pallide notata. Long. (rostr. excl.) 3 mm.

This prettily marked species appears to be quite distinct. The prothorax is clothed with appressed scales of a fulvous colour, and black erect ones along the two inner ridges. The basal half of the elytra is covered with pale squamosity of a whitish and pale brown colour, variegated with black markings, which are most extensive about the shoulders, and are partly formed by the basal elevation of the second and fourth interstices, which are there covered with dense erect black scales. A little behind the middle of the elytra there is a complete transverse black fascia, which posteriorly encloses a pure white trans-sutural spot. The first and third interstices are flat, not perceptibly convex, the second and fourth are elevated but by no means strongly so, and apparently unevenly, though this appearance is partly at least due to the erect setae which are placed on them at the base and about the middle of the elytra, and give them an appearance of being more elevated than is really the case. The sides of the elytra are simply and regularly rounded from the shoulders, the striae show no visible puncturation without the removal of the scales.

HAB. Hawaii. A single example beaten from *Acacia koa* at an elevation of about 5000 ft. in Kona.

(7) *Acalles innotabilis*, sp. nov.

Minus brevis, piceo-niger, rostro, antennis, tarsisque rufescentibus. Caput plus minusve pallide squamosum. Pronotum angustum, elongatum, obscurius longitudinaliter sulcatum, antice minus fortiter constrictum, squamis pallidis fuscis vestitum. Elytra ex majore parte cum pronoto concoloria, squamisque nonnullis erectis nigris, maculaque albida postice trans suturam posita, ornata, humeris rotundatis, striis omnibus grosse punctatis, interstitio 2° subinaequaliter elevato, 1° et 3° subconvexis, 4°, 5°, 6° sat distincte subaequaliter elevatis. Tibiarum apices pallide squamosi. Long. (rostr. excl.) 3.2 mm.

HAB. Kauai. A single example taken in the lower forest (about 2500 ft.).

(8) *Acalles leptothorax*, sp. nov.

Niger, rostro, antennis, tarsisque rufis, haud latus, sat elongatus, squamis pallidis nigrisque intermixtis variegatus. Rostrum post antennis squamis pallidis vestitum. Pronotum elongatum, lateribus leviter, fere aequaliter, rotundatis, antice haud subito

angustatum vel constrictum, antice setis nonnullis erectis nigris, et ubique squamis nigris albidisque variegatim vestitum, supra vix evidenter sulcatum vel inaequale. Elytra squamis albidis nigrisque variegatim vestita, interstitiis convexis, 2° parum fortiter inaequali, striis parum distincte punctatis, lateribus sat aequaliter rotundatis. Femora nigra plus minus distincte albido-cingulata, tibiis nigro-squamosis, apices versus (circa  $\frac{1}{3}$ — $\frac{1}{2}$  longitud.) squamis pallidis vestitis, ibique rufescentibus. Long. circa 3 mm. (Plate VII. fig. 12.)

Remarkable for the very narrow long prothorax, which is quite evenly rounded at the sides. The extreme apex of the elytra is covered with pale scales, in front of which is a wide band of black squamosity enclosing a quadrate pale trans-sutural spot, which itself is dark in the centre. In front of this the elytra are variegated with black and pale scales intermixed.

HAB. Kauai. A single example was taken at Halemanu (4000 ft.).

(9) *Acalles decoratus* Blackburn.

*Acalles decoratus* Blackb., Tr. Dublin Soc. III. 1885, p. 180.

HAB. "Lanai, 2000 ft." "A single specimen" (Blackburn).

(10) *Acalles mauiensis* Blackburn.

*Acalles mauiensis* Blk., *t. c.* pp. 179, 181, 254.

HAB. Maui. "A single specimen beaten from *Aleurites triloba*, at an elevation of about 4000 ft. on Haleakala." (Blackburn.)

The specimen referred to on p. 181, *t. c.* is said, p. 254, *t. c.*, to be probably a distinct species.

(11) *Acalles angusticollis* Sharp.

*Acalles angusticollis* Sharp, Tr. Dublin Soc. III. 1885, p. 179.

HAB. Maui, Haleakala (Blackburn), where I have myself taken a single example. Minute examples taken on Oahu (var. *minor*, Shp.) by Mr Blackburn are probably distinct, and almost agree with abraded specimens taken by myself on Lanai.

(12) *Acalles duplex* Sharp.

*Acalles duplex* Sharp, *t. c.* p. 178.

(Plate VII. fig. 13, ♂; fig. 14, ♀.)

HAB. Oahu. Widely distributed on the island. Varies greatly in size, the females apparently not being always of diminutive size as compared with the males.

(13) *Acalles ignotus* Blackburn.

*Acalles ignotus* Blackb. *t. c.* p. 180.

HAB. Oahu. A single example (Blackburn).

(14) *Acalles lanaiensis*, sp. nov.

Valde convexus, pallide squamosus, rostro piceo, antennis tarsisque rufescentibus. Caput cum pronoto squamis pallidis vestitum. Pronotum sat latum, antice fortius constrictum, medium postice distincte sulcatum. Elytra pallide squamosa, plaga humerali utrinque saepe nigra, angulis humeralibus sat distinctis, fere rectis, interstitio 2° plus minusve inaequaliter elevato, tertio quartoque elevatis, illo angulos humerales formante, striis obscure punctatis. Long. (rostr. excl.) vix 3 mm.

Apparently allied to *Acalles duplex*, Shp., but much smaller and the sculpture of the elytra much less strongly pronounced.

HAB. Lanai Mountains; several examples taken.

(15) *Acalles chlorolepis*, sp. nov.

Brevior, robustus, griseo-squamosus, rostro, antennis, tarsis, tibiis et apicibus plus minusve rufescentibus. Caput griseo-squamosum; antennarum articulo tertio brevi. Pronotum haud latum, squamis griseis depressis, paucisque erectis nigricantibus vestitum, longitudinaliter 5-sulcatum, lateribus minus fortiter rotundatis. Elytra griseo-squamosa, apicem versus utrinque plaga nigricante, interstitiis 2° et 4° sat fortiter inaequaliter elevatis, 1° et 3° vix vel haud convexus, striis internis obscure punctatis, angulis humeralibus sat distinctis. Femora nigro-squamosa, squamis erectis griseis conspersa. Long. (rostr. excl.) vix 3 mm.

HAB. Kauai (4000 ft.); two or three examples taken.

(16) *Acalles nigripennis*, sp. nov.

Sat latus, antennis tarsisque rufescentibus, rostro rufopiceo. Caput pallide squamosum. Pronotum basi latum, antice fortiter constrictum, squamis pallidis vestitum, postice fortius sulcatum. Elytra tota nigro-squamosa, lateribus haud aequaliter rotundatis, interstitiis 2° et 4° subfortiter nec aequaliter elevatis, striis obscure punctatis. Femora omnia ubique pallide squamosa. Long. (rostr. excl.) 3 mm. (Plate VII. fig. 15.)



The elytra have the second interstice rather strongly raised, rather more strongly at the base and at about their middle than between these points; the third is hardly convex; the fourth strongly and unevenly raised, forming the humeral angles; the fifth and sixth are also more or less unevenly raised, the latter in dorsal aspect forming the lateral outline of the elytra behind the shoulders, which owing to the form of this interstice has an angulate appearance, instead of being regularly rounded from the base.

HAB. Lanai, a single example taken in the mountains.

(17) *Acalles tuberculatus*, sp. nov.

Piceus, rufopiceus, vel rufescens, minus brevis, rostro, antennis tarsisque rufescentibus, squamis pallidis nigrisque vestitus, squamis erectis elongatis et gracilibus. Pronotum haud latum, plus minusve evidenter longitudinaliter 5-sulcatum, sulco medio tuberculo elongato laevi munito, antice fortius constrictum, squamis ex maiore parte nigris vestitum. Elytra squamis nigris pallidisque variegata, striis obscure punctatis, interstitiis 2° et 4° aequaliter, 6° inaequaliter elevato, humeris prominulis. Long. 2.75—3 mm.

This species is very distinct by the smooth tubercle situated about the centre of the prothorax, and the form of the erect scales, which are longer and more slender than those of other species. The elytra have their humeral angles somewhat acute and prominent, the 2nd and 4th interstices moderately strongly, and evenly raised, the 6th is somewhat strongly raised a short distance behind the shoulders, and forming the outline of the elytra in dorsal aspect, gives it at that point an appearance of being angulated. One example has the elytra nearly entirely clothed with pale scales. Most of them are for the most part or entirely denuded.

HAB. Hawaii; Kona (4000 ft.). About 10 examples found under small logs.

(18) *Acalles pallidicollis*, sp. nov.

Minus brevis, niger, rostro piceo, tarsis antennisque rufescentibus. Caput rostrique basis squamis pallidis vestita. Pronotum totum pallide squamosum, elongatum, antice constrictum, obscurius sulcatum. Elytra squamis pallidis nigrisque variegata, basi apiceque ex maiore parte nigris, media parte pallide squamosa, obscure nigro fasciata, striis internis obscure grosse punctatis, interstitiis 2° et 4° fortius, primo et tertio his levius elevatis. Femora omnia pallide vestita, nigro-cingulata, squamis erectis pallidis. Long. (rostr. excl.) 3.25 mm.

HAB. Kauai, above 2000 ft. One example taken.

(19) *Acalles monticola*, sp. nov.

Minus brevis, pallide squamosus, rostro piceo, antennis basi rufescentibus. Caput cum basi rostri squamis depressis erectisque pallidis vestitum. Pronotum elongatum, antice constrictum, obscurius 5-sulcatum, squamis pallidis depressis, nonnullisque nigris erectis vestitum. Elytrorum pars basalis squamis pallidis vestita, nigro-punctata, post media plaga transversali nigricante, quae maculam albidam, trans suturam positam, continet, apice pallido; interstitiis 2°—6° fortius aequaliter convexis, striis obscure grosse punctatis. Femora omnia pallide squamosa, media parte late nigrocincta. Tibiae ad basim nigro-squamosae. Long. (rostr. excl.) 3.5 mm.

In this species all the interstices of the elytra are raised, except the first, which is only slightly convex. There is very little difference between the convexity of the other interstices, that of the 3rd being slightly less than the 2nd and 4th.

HAB. Oahu. A single example taken in the Waianae mountains.

(20) *Acalles oahuensis*, sp. nov.

Minus brevis, pallide squamosus, rostro antennisque rufis. Caput squamis pallidis depressis, nigrisque erectis, vestitum. Pronotum elongatum, antice subfortiter constrictum, 5-sulcatum, lateribus rotundatis, squamis pallidis nigrisque variegatum, aliisque erectis nigris vestitum. Elytra squamis pallidis vestita, plaga magna basali nigra, fasciisque post media duabus irregularibus transversis ornata, leviter striata, striis parum distincte punctatis, interstitiis 2°, 4°, et 6° aequaliter elevatis, 1°, 3° et 5° haud convexis. Femora cum tibiis ex maiore parte squamis nigris vestita. Long. (rostr. excl.) 3 mm.

A very distinct species, each of the elytra with three very well-marked longitudinal costae, which continue the three ridges on either side of the thorax. The alternate interstices are not at all raised or convex.

HAB. Oahu. A single example taken in the Waianae mountains (2000 ft.).

## CHAENOSTERNUM Blackburn.

(1) *Chaenosternum konanum* Blackburn.

*Chaenosternum konanum* Blackb., Tr. Dublin Soc. III. 1885, p. 181.

HAB. Oahu. One example taken near Honolulu (Blackburn).

## HYPEROMORPHA Blackburn.

(1) *Hyperomorpha squamosa* Blackburn.

*Hyperomorpha squamosa* Blackb., *t. c.* p. 182.

HAB. Oahu. A single example taken in wet moss in the Pausa valley (Blackburn). I have not met with this, or the preceding genus.

## Tribe CALANDRINI.

## SPHENOPHORUS Schönherr.

(1) *Sphenophorus obscurus* Boisd.

*Calandra obscura* Boisd. Voy. Astr. II. p. 448; Fairm. Rev. Zool. 1849, p. 474. The various islands.

HAB. A destructive species in the fields of sugar-cane, well-known as the 'cane-borer.' Also on banana in the mountains and sometimes found under rocks. The species has probably a wide distribution outside the Archipelago, though very little has been written about it.

## CALANDRA Clairville.

(1) *Calandra remota* Sharp.

*Calandra remota* Sharp, Tr. Dublin Soc. III. 1885, p. 183.

HAB. Oahu (Blackburn). Maui; in banana stems; common.

(2) *Calandra oryzae*, L.

*Calandra oryzae* Linn., Amaen. Acc. VI. p. 395.

HAB. All the islands; in food.

(3) *Calandra linearis* var. *striata* Thunb.

*Calandra linearis* var. *striata* Thunb. Nov. Act. Ups. VII. p. 112.

HAB. Oahu; in decaying tamarinds (Blackburn).

## Tribe COSSONINI.

## DRYOPHTHORUS Schönherr.

(1) *Dryophthorus squalidus* Sharp.

*Dryophthorus squalidus* Sharp, Tr. Ent. Soc. London, 1878, p. 22.

HAB. Common throughout the islands in the mountains.

This abundant species is extremely variable in size, the smallest examples are less than four, the largest more than six, mm. in length. All the interstices of the elytra

are covered with a cinereous bloom. The apical portion of the rostrum in the ♀ (from the insertion of the antennae to the apex) is impunctate, or at the most has a few excessively feeble and fine punctures.

(2) *Dryophthorus distinguendus*, sp. nov.

Niger, piceus, vel rufescens, haud robustus, grosse punctatus. Rostri ♂-is pars anterior opaca, rugoso-punctata, ♀-ae nitida, subtilius sat distincte fere ad apicem punctata. Oculi sat magni. Pronotum densissime punctatum, antice fortiter constrictum. Elytra satis profunde sulcata, sulcis confertim grosse punctatis, interstitiis haud cinereo-sericeis, subtilissime punctulatis, et brevissime pallide setulosis. Long. (rostr. incl.) 4—5.5 mm.

This species greatly resembles *D. squalidus* Shp., and is often found in company with that species, but is certainly distinct. The interstices of the elytra are never covered with the whitish bloom as in that species, and the minute punctures which they bear give rise to short pale-coloured setae. The ♀ is readily distinct from that of *D. squalidus* by the fact that the rostrum has an evident, though not coarse, puncturation on its anterior shining portion. Like most of the Hawaiian species this varies considerably, but it is by no means improbable that I have included more than one species under the above name. The raised apical margin of the elytra is continuous with the sixth interstice as in *D. squalidus*.

HAB. Found on all or nearly all the islands of the group.

(3) *Dryophthorus peles*, sp. nov.

Niger, robustus, grosse punctatus. Rostri ♀ pars praeantennalis nitida, subtiliter sat evidenter punctata. Pronotum latum, grosse punctatum, antice fortiter constrictum. Elytra fortiter seriatim punctata, interstitiis distinctissime punctulatis, brevissime pallide setulosis, haud cinereo-sericeis, margine apicali elevato cum interstitio sexto continuo. Long. (rostr. incl.) 6—6.5 mm.

This species somewhat resembles *D. distinguendus*, but it is altogether larger and more robust. The interstitial puncturation of the elytra is larger, and more distinct and definite than in most of the species. The punctures in each row are closely set, and the spaces dividing one from another are more than usually convex, grooved on each side where they meet the interstices. This convexity gives them a strongly marked knob-like appearance in certain aspects. The whitish bloom seen in *D. squalidus* is entirely absent, but the interstitial punctures bear excessively minute pale setae. The interstices themselves are all of nearly similar height, and the sixth is confluent with the elevated apical side-margin.

HAB. Hawaii. Kilauea (June 1895). Half-a-dozen examples, no doubt obtained in a batch, as they stand under the same number. The species appears to me to be most closely allied to *D. nesiotes*.

(4) *Dryophthorus nesiotes*, sp. nov.

Niger, robustus, statura magna. Rostri pars praeantennalis ♀ nitida, haud, vel vix evidenter, punctata. Pronotum latissimum, antice fortissime constrictum, fortiter dense punctatum. Elytra seriatim fortiter punctata, interstitiis cinereo-sericeis, tuberculis minutis, sat distinctis, munitis. Long. (rostr. incl.) 6—7.75 mm. (Plate VII. fig. 16.)

This species also belongs to the group in which the elevated apical margin is continuous with the sixth interstice of the elytra. The interstices themselves (except in very much rubbed examples), have a distinct ashy covering. The formation of the spaces between the punctures in each row on the elytra is nearly similar to that in *D. peles*. The present species is distinct by its large size, the distinct minute asperities with which the interstices are set, and their ashy covering.

HAB. Kauai mountains (4000 ft.).

(5) *Dryophthorus gravidus* Sharp.

*Dryophthorus gravidus* Sharp, Tr. Ent. Soc. London, 1878, p. 22.

To this species I refer a great number of examples taken on Molokai, Lanai, Maui, and Hawaii. The differences between the extremes are so great that they do not appear, when examined together, to be even very closely allied species, but after examining the whole series from the various localities, I am forced to consider all to belong to one variable form. Minute individuals appear to be always distinguishable from *D. squalidus* etc. by the shorter and wider elytra, differences in puncturation etc. Some examples from Maui are very remarkable, the punctures on the elytra becoming distorted and tending to become obsolete, the elytra themselves being laterally compressed. A similar tendency is also seen in some specimens from other islands. The elytra are much more narrowed posteriorly in some examples than in others. The puncturation of the prothorax varies in the size and density of the punctures; those on the elytra also are variable. There is a decided tendency towards the sculpture of the elytra exhibited by *D. crassus* Shp. in some Maui individuals.

HAB. Oahu (Blackburn); all the islands to windward of Oahu.

(6) *Dryophthorus crassus* Sharp.

*Dryophthorus crassus* Sharp, Tr. Ent. Soc. London, 1878, p. 23.

HAB. Oahu and Maui (Blackburn). I have taken it singly near Honolulu, but not elsewhere, unless some of the examples from Maui, included under *D. gravidus*, should be referred to this species.

(7) *Dryophthorus homoeorhynchus*, sp. nov.

Niger, vel piceus, haud robustus, rugoso-punctatus. Rostrum utriusque sexus (apice extremo excepto), opacum, rugoso-punctatum. Pronotum densissime rugoso-punctatum, antice fortissime constrictum. Elytra sat profunde sulcata, sulcis grosse punctatis, interstitiis punctulatis, punctis setas brevissimas pallidas, satis conspicuas, ferentibus. Long. (rostr. incl.) 4.5—6 mm. (Plate VII. fig. 17; fig. 17a, head and rostrum of ♀; fig. 17b of ♂.)

This species, although the elevated apical margin appears rather continuous with the sixth than the fourth interstice of the elytra, evidently belongs to the group of *D. declivis*, from which it is also separated at once by the fact that there is little difference in the elevation of the interstices, whereas in that species the second, fourth and sixth are very noticeably more elevated than the others. From those species of the group of *D. squalidus* which it somewhat resembles, the female is distinguished at once by the dull apical half of the rostrum, with its rugose puncturation, and the ♂ by the more outstanding pterygia, so that the rostrum is more widened about the point of insertion of the antennae. The sexes are easily known by the more slender rostrum of the female.

HAB. Kauai mountains (2000—4000 ft.).

(8) *Dryophthorus declivis* Sharp.

*Dryophthorus declivis* Sharp, Tr. Ent. Soc. London, 1878, p. 23.

(Plate VII. fig. 18.)

This is a very distinct species easily known by the costate 2nd, 4th and 6th interstices of the elytra, the two latter uniting to form the strongly raised apical side-margin. These interstices vary somewhat in the amount of elevation, but it is always very apparent. The female has the rostrum more slender than the ♂, less widened at the insertion of the antennae, but the dull surface and rugose puncturation to near the apex is common to both sexes.

HAB. Oahu, Molokai, Hawaii. Not so common as many of the species.

(9) *Dryophthorus modestus* Sharp.

*Dryophthorus modestus* Sharp, Tr. Ent. Soc. London, 1878, p. 23.

The sexual distinctions in this species are similar to those exhibited by the sexes in *D. homoeorhynchus* and *D. declivis*. It varies considerably in size and the elevation of the apical margin, the connection between which and the fourth interstice is rather less manifest in some examples than others.

HAB. Oahu, Maui, and Hawaii.

(10) *Dryophthorus pusillus* Sharp.

*Dryophthorus pusillus* Sharp, *t. c.* p. 24.

HAB. Oahu (Blackburn); in stems of the tree-fern. I have never met with this species.

(11) *Dryophthorus oahuensis*, sp. nov.

Species minima, minus lata, rufescens, capite nigricante. Rostrum (♂) latum, rugosum, et opacum. Pronotum antice fortiter constrictum, grosse rugoso-punctatum. Elytra seriatim grosse punctata, interstitiis omnibus distinctis, 2° et 4° quam 3° et 5° paullo fortius elevatis, 6° ad apicem declivem fortissime carinato-elevato. Long. ♂ (rostr. incl.) 2.7 mm.

The rostrum is rather short and broad, the pterygia strongly outstanding. The eyes are feebly faceted. The puncturation of the prothorax is coarse and rugose but apparently shallow. All the interstices of the elytra are distinct, but not wide, the second and fourth a little more raised than the third and fifth, and not interrupted, the sixth alone forms the extremely strongly elevated apical side-margin. The species is very distinct.

HAB. Oahu. A single example (♂) taken in the Waianae mountains (3000 ft.).

(12) *Dryophthorus kauaiensis*, sp. nov.

Species minima, rufescens. Caput (♂) cum rostro rugoso-punctatum, squamosum. Pronotum dense grossissime rugoso-punctatum, antice constrictum. Elytra sat grosse seriatim punctata, interstitio 2°, 4° et 6° haud interrupte carinato-elevatis, tertio sub-obsoleto. Long. ♂ vix 3 mm.

This species is allied to *D. oahuensis*, but it is a little larger, and abundantly distinct by the sculpture of the elytra, the sharply carinate form of the second and fourth interstices readily separating the two. The apical margin is formed by the sixth interstice, which is strongly raised towards the apex. In *D. pusillus* Shp., which is a small species, the fourth interstice is continuous with that margin, as also is the case with *D. modestus* Shp. Both in *D. kauaiensis* and the preceding species the eighth interstice forms a part of the lateral outline towards the base of the elytra, in dorsal aspect. In the present species indeed it is rather strongly raised.

HAB. Kauai. A single ♂ taken in the mountains (4000 ft.).

(13) *Dryophthorus insignis* Sharp.

*Dryophthorus insignis* Sharp, t. c. 1878, p. 24.

(Plate VII. fig. 19.)

I have examined numerous specimens which I refer to this species from the islands of Oahu, Maui, and Hawaii. It also is found on the other islands. The examples from the islands specified do not altogether agree, but as the series from each locality exhibits some variation I see no means of separating them as distinct forms. Certainly in the majority of cases the Oahuan examples can be distinguished by the more imperfect eyes, but there is evident individual variation in this respect. The Maui form has the raised interstices of the elytra always very strongly broken, and the eyes are more developed. In specimens from Hawaii the eyes are well-developed, convex and a little prominent. From the other islands I have seen only odd specimens.

HAB. Found under bark of trees in the mountains of all the islands.

(14) *Dryophthorus insignoides*, sp. nov.

Piceus, vel plus minusve rufescens, sat grosse punctatus. Oculi mediocres. Rostri (♀) pars praeantennalis nitida, rugoso-punctata. Pronotum elongatum, antice fortiter constrictum, obscurius grosse punctatum. Elytra seriatim grosse punctata, interstitio 2° et 4° inaequaliter carinato-elevatis, setis vestitis, primo sat distincto. Long. (rostr. incl.) 4—4.75 mm.

The general sculpture of this species is as in *D. insignis* Shp., from which it is readily distinguished by the distinct first interstice of the elytra, the carinae of which are less strongly elevated. All the raised interstices (i.e. 2nd, 4th and 6th) bear erect setae, and the second and fourth are evidently interrupted or uneven. The third and fifth interstices are generally more or less distinct. The eyes are fairly well developed. The rostrum of the female on the part in front of the antennae has the surface shining, and is strongly and rugosely punctured, in the ♂ this part is dull and covered with squamosity.

HAB. Kauai mountains. Single examples from other islands, Molokai, Lanai, and Oahu, do not altogether agree with the typical specimens, but are too close to separate without the examination of a fair series.

(15) *Dryophthorus brevipennis*, sp. nov.

Praecedenti simillimus, statura minore, elytris brevioribus distinguendus. Long. 3—3.75 mm.

Very similar to the preceding but a decidedly smaller insect. The second, fourth



and sixth interstices of the elytra are more or less raised and bear fine setae, but the elevations are feeble. The other interstices are quite distinct. The elytra themselves are decidedly shorter than in *D. insignoides*, the rostrum in the ♀ is more finely and less rugosely punctured than in that species. In a strict dorsal aspect of the elytra the acute 8th interstice always forms a portion of their lateral outline near the base.

HAB. Kauai mountains (4000 ft.).

(16) *Dryophthorus fuscescens*, sp. nov.

Haud latus, statura minore, fuscescens. Oculi minimi. Pronotum antice fortiter constrictum, grossius punctatum. Elytra seriatim grossius punctata, interstitiis cunctis sat distinctis, secundo quartoque inaequaliter distincte carinato-elevatulis, cumque sexto, setis brevissimis vestitis. Long. 3.5 mm.

A small and very distinct species, with unusually small eyes, which consist of comparatively few coarse facets. The rostrum of the ♀ is closely, coarsely and rugosely punctured between the smooth apex and the line of insertion of the antennae, and is hardly shining. In the ♂ the sculpture of the rostrum is entirely concealed, and this may possibly be the case with the ♀ when alive, but the covering is removed in the single example of this sex.

HAB. Kauai (4000 ft.); 2 ♂ and 1 ♀ taken.

(17) *Dryophthorus verticalis*, sp. nov.

Piceus, subrobustus. Rostris (♀) pars praeantennalis nitida, fortiter distincte punctata. Oculi sat magni. Pronotum grossius punctatum, antice fortiter constrictum. Elytra seriatim grosse punctata, interstitiis sat distinctis, secundo quartoque inaequaliter elevatis et setulosis, postice fortissime declivia, fere verticalia. Long. (rostr. excl.) 3—vix 4 mm. (Plate VII. fig. 20.)

The male of this species is at once distinguished from any other of the section by its short robust form as seen in dorsal view, the elytra becoming wider at the base of the posterior declivity than they are across the shoulders. Posteriorly they are strongly vertical and of slightly recurved form. The female is less remarkable but it is more robust and larger than the allied species. The rostrum is shining and strongly punctured. In both sexes the sinuation of the 6th interstice of the elytra causes the 8th to be distinctly visible in dorsal aspect, so that it evidently forms part of the lateral outline. The second and fourth interstices are unevenly raised, or carinate, and setulose.

HAB. Kauai mountains (4000 ft.).

## THALLATODORA, gen. nov.

Corpus subgracile, fusiformi-ovale, rugoso-sculpturatum. Rostrum elongatum, ad insertionem antennarum fortissime curvatum, sive geniculatum, parte praeantennali fortius dilatata. Antennae longe ante medium rostrum insertae, scapo elongato, funiculo capituloque una conjunctis haud minus longo, funiculi 5-articulati articulo secundo sequentibus evidenter longiore, capitulo brevi, robusto. Oculi subrotundi, fortiter prominentes, in rostro, a capite distantes, siti. Pronotum elongatum, antice constrictum, elytris angustius. Scutellum vix discernendum. Tarsi breves, articulo tertio bilobato, lobis parvis. Corpus totum subtus dense ac grosse punctatum; coxae posteriores late, intermediae his minus late, anteriores intermediis minus late separatae, haudquaquam tamen contiguae. Metasternum sat longum. Abdominis pars basalis (sc. segmentum 1 et 2, quae parum distincte sunt divisa), mesosterno una cum metasterno haud minus longa.

(1) *Thalattodora insignis*, sp. nov.

Piceo-nigra, tarsis antennisque rufescentibus, opaca. Rostrum rugosum. Pronotum elongatum, antice constrictum, lateribus parum fortiter rotundatis, grosse denseque rugoso-punctatum. Elytra profunde striata, striis grosse confertim punctatis, interstitiis asperis, punctulatis, setis brevissimis pallidis, uniseriatim dispositis. Long. (rostr. incl.) 3.5 mm. (Plate VIII. fig. 1; 1a, antennae.)

HAB. Lanai. A single example taken under logs on the coast.

## PENTARTHURUM Wollaston.

(1) *Pentarthrum prolixum* Sharp.

*Pentarthrum prolixum* Sharp, Tr. Ent. Soc. London, 1878, p. 25.

HAB. Found on all the islands, living on tree-ferns. Varies greatly in size.

(2) *Pentarthrum obscurum* Sharp.

*Pentarthrum obscurum* Sharp, *l. c.*

HAB. Oahu. Abundant in dead wood up to an elevation of 2000 ft. Often in company with *Phloeophagosoma* and *Pseudolus*.

(3) *Pentarthrum blackburni* Sharp.

*Pentarthrum blackburni* Sharp, l. c.

HAB. Oahu. Near Honolulu (Blackburn). I did not meet with this species.

## OROTHREPTES, gen. nov.

Subfusiformis, haud gracilis, totus pube aurea vestitus. Rostrum elongatum, levius curvatum, lateribus parallelis. Oculi magni convexi. Antennae breves, robustae, fere ad medium rostrum insertae, scapo minus longo, funiculo 5-articulato, articulo primo brevi, caeteris transversis, capitulo elongato. Pronotum latum, antice subconstrictum. Tarsi breves, sat robusti, articulo tertio late bilobato. Coxae omnes sat late separatae, sed posteriores et intermediae multo latius quam anteriores. Metasternum longum. Elytra pronoto evidenter latiora. Scutellum patens.

Perhaps most nearly allied to *Sericotrogus* Woll., but differing greatly in its much less narrow and elongate form, the less strongly curved rostrum, the pterygia being not in the least outstanding, the larger but less prominent eyes, short wide prothorax, shorter metasternum, and in many other respects. The lobes of the tarsi are very largely developed, the apical joint is somewhat stout.

(1) *Orothreptes callithrix*, sp. nov.

Rufotestaceus, totus aureo-pubescens. Rostrum opacum, subtilissime punctatum, lateribus parallelis. Pronotum sat latum, antice subconstrictum, densissime grossius punctatum, lateribus rotundatis. Elytra profunde striata, striis haud distincte punctatis, interstitiis confuse crebreque rugoso-punctatis. Long. (rostr. incl.) circ. 4.25 mm. (Plate VIII. fig. 2; 2a, antenna).

HAB. Hawaii. A single example taken in the Kona district (3000 ft.)

## DEINOCOSSONUS, gen. nov.

Forma subcylindrico-fusiformi, totus pube demissa vestitus. Rostrum latum, breve, a capite parum distincte divisum, medium postice longitudinaliter sulcatum, ad insertionem antennarum subangustatum, ibique utrinque tuberculo munitum. Oculi permagni, convexiusculi, a pronoto distantes. Antennae ad apices oculorum insertae, ab apice rostri distantes, funiculo 7-articulato, articulo primo caeteris, qui omnes sunt brevissimi, longiore, capitulo sat robusto. Pronotum subelongatum, antice angustatum.

Elytra ac pronotum aequae lata. Scutellum conspicuum. Tarsorum articulus tertius sat latus, bilobatus. Uncus tibiartum anteriorum apicalis validus. Femora robusta. Coxae omnes late separatae. Metasternum satis longum. Abdomen subtus pubescens, fortiter punctatum.

A genus, the species of which is of small size, and apparently without any allied form known from elsewhere. It is very remarkable for the short wide rostrum, the very large, but not prominent eyes, and the dense covering of golden pubescence. In the testaceous colour, and the clothing, these insects have an extraordinary resemblance to the insect, for which I have made the genus *Orothreptes*, but that has a totally different form of rostrum, and a 5-jointed funiculus, and differs in many other respects. Probably in habits the two are identical.

*Deinocossonus* is a form of excessive rarity, or at least very difficult to procure, and the pubescence is so easily removed, that I have been unwilling to subject the few specimens taken to much manipulation.

(1) *Deinocossonus nesiotes*, sp. nov.

Angustus, testaceus, aureo-pubescens, capite rostroque nigris. Pronotum dense, nec profunde punctatum, inter puncta subtilissime rugulosa. Elytra striata, striis obscurius, plus minusve evidenter punctatis, interstitiis obscure punctulatis, et pubescentibus. Femora anteriora supra testacea, parte inferiore nigricante. Long. (rostr. incl.), 2.5—vix 3 mm. (Plate VIII. fig. 3; 3a, antenna.)

Var. *α*. elytrorum striis haud evidenter punctatis, rostri parte apicali testacea.

Var. *β*. rostro et capite nigris, femora omnia cum tibiis nigricantia.

HAB. Oahu. Two examples taken together at an elevation of 3000 ft. on Kaala mountain. Var. *α*. Kauai, 4000 ft.; Oahu, Waianae mountains. Var. *β*. Hawaii. One specimen at Kilauea.

HALOXENUS, gen. nov.

Corpus elongatum, gracile, fusiforme, haud pubescens. Rostrum latum, breve subconicum (sc. lateribus ad apicem evidenter convergentibus), a capite minus distincte divisum. Oculi rotundi, latissime separati, a pronoto sat distantes. Antennae paullo ante medium rostrum insertae, funiculi 7-articulati articulo primo robusto, caeteris longiore, secundo caeterisque brevissimis, capitulo sat magno, apice acuminato. Pronotum elongatum antice angustatum, vix constrictum. Pedes sat robusti; tarsi breves, articulo tertio parvo, haud evidenter bilobato, articulo ultimo elongato, caeteris conjunctis haud minus longo. Metasternum perlongum. Coxae omnes late separatae. Elytra elongata, angusta, lateribus parallelis. Scutellum patens.

This genus comes nearest to *Eutornus* Woll., but has the rostrum narrowing to the apex, and the point of insertion of the antennae is different.

(1) *Haloxenus immigrans*, sp. nov.

Piceus, vel rufopiceus, subnitidus, elongatus, gracillimus. Rostrum basim versus dense sat fortiter, ad apicem subtiliter punctatum. Pronotum fortiter punctatum, antice sensim nec fortiter angustatum. Elytra striata, striis sat grosse punctatis, circum suturam subtilissime punctulata. Long. (rostr. incl.) circ. 3 mm. (Plate VIII. fig. 4.)

HAB. Molokai and Lanai coasts. Not rare under logs of drift-wood.

## PSEUDOLUS Sharp.

(1) *Pseudolus longulus* Boheman.

*Rhyncolus longulus* Boh., Eug. Res. p. 149.

HAB. Oahu and Maui. Abundant, and no doubt inhabits other of the islands, at low elevations. On *Cactus*, *Aleurites*, *Musa*, &c.

(2) *Pseudolus hospes*, sp. nov.

Niger, gracilis, elongatus, subnitidus. Rostrum confertim punctatum, parte prae-antennali fortius dilatata. Pronotum elongatum, fortiter crebre punctatum, antice fortiter constrictum. Elytra striata, striis grosse confertim punctatis, interstitiis punctulatis, setas minimas pallidas ferentibus, et transversim subtilissime rugulosis. Tarsorum articulus tertius, secundo evidenter latior, bilobatus, lobis parvis. Long. 6.5 mm.

HAB. Oahu. Four examples taken, two in Honolulu and two a short distance outside.

This species has only been met with near Honolulu, and I suspect it has been introduced. Generically it appears to be somewhat intermediate between *Pseudolus* and *Phloeophagosoma*.

## PHLOEOPHAGOSOMA Wollaston.

(1) *Phloeophagosoma tenuis* Gemm.

*Rhyncolus tenuis* Gemm. Mun. Cat. VIII. p. 2667.

*Rhyncolus gracilis* Boh. Eug. Res. p. 149.

HAB. Oahu, up to 2000 ft.; common. Hawaii, in Kona (2000—3000 ft.).

## NESOTOCUS, gen. nov.

Forma subfusiformi, statura magna. Rostrum cylindricum, perlongum, maris rugose sculpturatum, saepissime spinulosum, feminae parte praeantennali laevi, nitida, impunctata. Oculi magni, convexiusculi, a pronoto sat distantes. Antennae longissimae, graciles, maris paullo ante vel fere ad medium rostrum, feminae longe post medium insertae, funiculo (♂) perspicue piloso, 7-articulato, articulis basalibus fortissime elongatis, capitulo elongato, subfusiformi. Pronotum antice fortiter angustatum, truncato-conicum. Scutellum patens. Pedes longissimi, femoribus anterioribus ♂ gracilioribus, ♀ robustioribus et magis incrassatis, tarsorum articulo primo et secundo elongatis, tertio late bilobato, articulo ultimo gracili elongato, apicem versus crassiore, unguiculis longis et curvatis. Coxae anteriores (necnon etiam intermediae et posteriores) late separatae. Metasternum sat longum, postice subangulariter emarginatum, medium longitudinaliter impressum vel sulcatum. Abdominis segmentum primum ventrale secundo paullo longius, tertium una cum quarto hoc paullo brevius, segmentum apicale ♂ latius ♀ minus late rotundatum. Elytra et pronotum pube pallida decorata, hoc et illis subaequilatis.

There is apparently no known ally to the three remarkable insects for which the above genus is formed. They all live in the wood of the tree *Cheirodendron*, and, I believe, of another tree which has a considerable resemblance to that genus. In superficial appearance the three species almost exactly resemble one another, and this is rather that of Eirrhini than Cossonini.

(1) *Nesotocus munroi*, sp. nov.

Niger, pubescentiae pallidae maculis ornatus, antennis tarsisque nonnunquam rufescentibus. Rostrum ♂ (saltem in exemplis majoribus), rugoso-sculpturatum, utrinque serrato-spinosum, in exemplis parvis vix plus quam simpliciter punctatum, ♀ parte praeantennali laevi impunctato. Antennae ♂ evidenter propius ad apicem rostri quam ad oculos, ♀ longe post medium rostrum insertae. Pronotum sat dense punctatum, antice fortiter angustatum, conico-truncatum. Elytra striata, striis parum fortiter punctatis, apicem versus compressa. Long. (rostr. incl.), ♂ majoris 21 mm., ♂ minoris 12.5 mm.; ♀ 15 mm.

Ill-developed males have the front femora more incrassate than large examples, tending to resemble the ♀ in this respect, as also to some extent in the smoother rostrum.

HAB. Hawaii, Maui. Various localities on Hawaii (2000—4000 ft.); Kohala, Kau, Puna; Haleakala on Maui. This species was given to me, soon after my arrival in the islands, by Mr G. C. Munro, who obtained specimens in the Kohala mountains, and I have named it after this excellent ornithologist. A fragment (elytra and sternum) found in the mountains of Molokai may belong to this species, but the pubescence is more deeply yellow.

(2) *Nesotocus newelli*, sp. nov.

Praecedenti cognatissimus. Differt statura majore, antennarum scapi apice magis incrassato, funiculo densius longiusque piloso, articulo secundo pro primo magis elongato. ♂. Long. 26 mm.

The single ♂ of this species I believe to be distinct from *N. munroi*, and not merely a very large and finely developed example of that species. Besides the characters given above the apical joint of the *funiculus* of the antennae is nearly equal to the basal portion of the club, which is clothed with sub-erect hairs (the apical portion being densely covered with appressed pubescence). In *N. munroi* the apical joint of the funiculus is very greatly shorter than the basal portion of the club.

HAB. Maui. A single example has been taken by Bro. Matthias Newell in the Iao valley.

(3) *Nesotocus kauaiensis*, sp. nov.

Praecedentibus simillimus, niger, pubescentia flava ornatus. Differt ♂ antennis haud propius ad apicem rostri quam ad oculos insertis, ♀ rostri parte postantennali minus fortiter denseque punctata. Long. 13—16.5 mm. (Plate VIII. fig. 5.)

The ♂ of this species is very distinct from either of the preceding, by the different point of insertion of the antennae, this being nearly equidistant from the eyes and apex of the rostrum. The ♀ is much more difficult to separate, but the basal portion of the rostrum appears to be smoother, and more finely and less closely punctured. In fresh examples the pubescence is decidedly more deeply yellow, and that on the elytra is rather more extensive.

HAB. Kauai (4000 ft.).

## DYSOMMA, gen. nov.

Corpus sat gracile, cylindrico-fusifforme, haud pubescens. Rostrum elongatum, leviter curvatum, pronoto longitudine subaequale, parte praeantennali basali parte sat latiore. Oculi parvi, subobsoleti. Antennae longe ante medium rostrum insertae, funiculi 7-articulati articulo basali elongato, secundo bis longiore, hoc tertio longiore, capitulo elongato-ovali. Pronotum magnum, elongatum, elytris latius, antice fortiter angustatum, vix constrictum. Uncus tiliarum anticarum apicalis validus. Tarsi breviores, articulo tertio parvo, lobis brevissimis. Unguiculi graciles, breves. Coxae omnes late separatae, metasterno longo. Abdominis segmentum basale inter coxas posteriores antice rotundatim productum. Elytra angustiora, lateribus subparallelis. Scutellum patens.

(1) *Dysomma sylvicola*, sp. nov.

Elongatus, sat gracilis, colore castaneo, subnitidus. Rostrum subrugoso-punctatum, setis brevissimis paucis vestitum. Pronotum dense aequaliter punctatum. Elytra pronoto angustiora, striata, striis confertim punctatis, interstitiis uniseriatim punctulatis. Long. (rostr. incl.) 5 mm. (Plate VIII. fig. 6.)

HAB. Kauai. A single example taken in the mountains (4000 ft.).

## HETERAMPHUS Sharp.

(1) *Heteramphus filicum*, sp. nov.

Latus, niger, opacus, tarsi antennisque rufescentibus. Pronotum latum, antice angustatum, vix constrictum, creberrime punctatum, brevissime pubescens, dorso juxta basim haud, vel vix evidenter, impresso. Elytra seriatim punctata, interstitiis usque ad basim parcius sed distincte pallido-pubescentibus. Long. (rostr. incl.) 8—9 mm. (Plate VIII. fig. 7.)

Closely allied to *H. wollastoni* Shp., but at once distinguished by the much more densely punctured thorax, which is clothed with a short minute pubescence, and lacks the basal impression of the allied species. The pale hairs on the interstices of the elytra are not confined to the apical portion, but extend to the extreme base.

HAB. Oahu, in the mountains. Attached to the tree-fern; only a few examples taken, the species being much more difficult to procure than *H. wollastoni*.

(2) *Heteramphus wollastoni* Sharp.

*Heteramphus wollastoni* Sharp, Tr. Dublin Soc. III. 1885, p. 188.

HAB. Oahu. Common in the mountains, but local. Lives at the bases of the leaves of *Astelia veratroides*.

(3) *Heteramphus foveatus* Sharp.

*Heteramphus foveatus* Sharp, l. c.

HAB. Oahu. Common in the same localities as, and in company with, *H. wollastoni*.



(4) *Heteramphus haleakalae*, sp. nov.

Piceus vel rufo-piceus, rostro, antennis pedibusque rufescentibus. Rostrum rugoso-punctatum, parte postantennali carinatim compressa. Pronotum subgrosse (antice quam postice minus dense) punctatum, sat elongatum, minus latum, dorso juxta basim leviter vel vix evidenter impressum. Elytra sat elongata, striata, striis parum fortiter nec confertim punctatis, parce usque ad basim pubescentia. Long. (rostr. incl.) 6—7 mm.

The general appearance and form of this species is that of *H. foveatus* Shp., but it is easily distinguished by the fact that it is more elongate, both the prothorax and elytra being narrower, and the former has only a shallow, sometimes hardly perceptible, impression near the base, and the punctures of the elytral striae are finer and more feeble. It is also very closely allied to the following species.

HAB. Maui, Haleakala (5000 ft.); three examples; taken from dead logs.

(5) *Heteramphus frater*, sp. nov.

Piceus vel rufo-piceus, rostro, antennis pedibusque plus minusve rufescentibus. Rostrum rugoso-punctatum, parte postantennali carinatim compressa. Pronotum grosse punctatum, postice juxta basim profunde foveatum. Elytra minus lata, usque ad basim parce pubescentia, striis minus fortiter punctatis. Long. (rostr. incl.) 6—7 mm.

Somewhat intermediate between *H. haleakalae* and *H. foveatus*, the base of the prothorax having a strong round impression. It is a narrower and more elongate insect than *H. foveatus*, and has the striae of the elytra less strongly punctured. From *H. haleakalae* it differs in the strong impression on the prothorax, and in the fact that the shoulders of the elytra are capable of being more closely applied to the base of the prothorax. The two examples taken do not agree well together, the one being more bulky than the other, and having the thoracic puncturation coarser, while the punctures of the striae of the elytra are finer and less closely placed. The smaller example has no impression on the apical ventral segment of the hind-body, whereas in the larger this segment is distinctly impressed, as is also the case with all the individuals of the preceding species.

HAB. Maui, Haleakala (5000 ft.); very rare.

(6) *Heteramphus molokaiensis*, sp. nov.

Piceus, antennis, rostro pedibusque plus minusve rufescentibus. Rostrum distincte punctatum, parte postantennali carinatim compressa. Pronotum angustum, elongatum, antice angustatum, vix grosse punctatum, parum evidenter pubescens. Elytra pronoto

paullo latiora, angustula, vix evidententer pubescentia, apicem versus rarissime setosa, striis obscurissime obsolete punctatis. Long. (rostr. incl.) 5 mm. (Plate VIII. fig. 8.)

Most nearly allied to *H. haleakalae*, but at once distinguished by its much more slender and elongate form.

HAB. Molokai mountains (4000 ft.). A single example taken out of wet moss in June 1893.

(7) *Heteramphus cylindricus* Sharp.

*Heteramphus cylindricus* Sharp, *t. c.* p. 189.

(Plate VIII. fig. 9 large form; fig. 10 small form.)

HAB. Oahu; common, at the bases of the leaves and in the stems of *Astelia*. Varies greatly in size, some examples being much larger and more robust than others.

(8) *Heteramphus hirtellus* Sharp.

*Heteramphus hirtellus* Sharp, *l. c.*

HAB. Oahu. A single example was taken by Mr Blackburn in the mountains near Honolulu. I have never met with this species.

(9) *Heteramphus kauaiensis*, sp. nov.

Piceus, sat latus, nitidus, rostri parte basali, pronoto, elytrisque, dense pallide setosis. Rostrum apicem versus dilatatum, nitidum, et subtiliter punctatum. Pronotum sat latum, nitidum, dense grosseque punctatum, juxta basim obsolete impressum, linea dorsali laevi. Elytra brevia, nitida, striis grosse confertim punctatis, interstitiis setis longis flavescentibus vestitis. Long. (rostr. incl.) 5.5 mm. (Plate VIII. fig. 11.)

This remarkable species is allied to *H. hirtellus* Shp., the rostrum, viewed from in front, being widened at some distance before the insertion of the antennae on the basal side, owing to the long outstanding pterygia. Its form is much the same as in *H. foveatus*, but it might reasonably be considered as the type of another genus.

HAB. Kauai. A single example taken on the high plateau.

(10) *Heteramphus nivicola*, sp. nov.

Nigro-piceus, opacus (capite cum pronoto absente), elytris apices versus setas nonnullas ferentibus. Elytra distinctissime striata, striis remote nec grosse punctatis, interstitiis haud convexis subseriatim rugoso-punctatis. Metasternum grosse punctatum.

Abdominis segmentum basale subtus nitidum, grosse et remote punctatum, segmentum 2<sup>m</sup>, 3<sup>m</sup> et 4<sup>m</sup> rugoso-punctata, segmentum apicale densius fortiter distincte punctatum. Long. ?.

The genus of the insect above described is not certain, since the head, prothorax and most of the appendages are wanting, but it is probably a true *Heteramphus*. It is easily distinguished from any of the other species, by the sculpture of the elytra and the under-parts. The former are less wide at the base and comparatively more elongate than those of *H. foveatus* (than which the species is of larger size), the striae are very distinct and are wide apart, their punctures are somewhat fine, and especially on the striae towards the sides, remote from one another, the interstices are not the least convex, and are rather largely and rugosely and somewhat seriatly punctured, so that when looked along from the apex they even appear somewhat grooved or concave. The humeral angles of the elytra are rounded off and indistinct. The abdomen beneath is shining, the basal segment remotely and very strongly punctured, the three following ones are rugosely punctate, the apical one strongly and closely, but less coarsely than the basal one.

HAB. Maui. A single example in fragmentary condition was found near the summit of Haleakala.

#### OODEMAS Bohem.

##### (1) *Oodemas olindae* Blackburn.

*Oodemas olindae* Blackburn, Ent. Mo. Mag. xvii. p. 199.

(Plate VIII. fig. 12, ♀.)

HAB. Maui, Haleakala (5000 ft.); 1 ♂ and 1 ♀ taken. Two examples, now in the British Museum, taken by Mr Blackburn, are both ♀, and apart from sexual differences agree closely with my ♂. The ♀ taken by me is less shining, the prothorax entirely dull, and strongly punctured, but there is little doubt that it belongs to the same species. The ♂ differs from the ♀ in the shorter rostrum, and the very large second joint of the anterior and intermediate tarsi, which are hardly less wide than the third joint.

##### (2) *Oodemas longirostre*, sp. nov.

Nigrum, aenescens, elongato-ovale, nitidum. Rostrum longissimum, valde curvatum, apice fortiter dilatato, basali parte gracillima, subtiliter dense punctatum. Oculi fortiter prominentes. Prothorax nitidus, sat elongatus, subtiliter punctatus. Elytra

nitida, basi obscure marginata, antice obscure striata, striis grossius punctatis, interstitiis crebre punctulatis, postice fortiter convexis. ♀. Long. (cum rostro) 7 mm. (Plate VIII. fig. 13, ♂; 13a, anterior tarsus of ♂.)

Very distinct from any other species; most nearly allied to *O. olindae*. The excessively long slender rostrum, which is much more strongly curved, will at once distinguish it from that species. The two basal joints of the funiculus are much the same in both species.

HAB. Kauai. A single ♀ taken in the mountains (4000 ft.).

(3) *Oodemias dilatatipes*, sp. nov.

Nigroaeneum, elongatum, nitidum. Rostrum nitidum, subtiliter sat dense punctatum, apice dilatato. Oculi fortiter prominentes. Antennarum articulus secundus et tertius fortiter elongati, subaequales. Pronotum latum, antice fortiter angustatum, subtiliter punctatum. Elytra seriatim (subgrosse) punctata, interstitiis convexis, subtiliter punctatis. Tarsorum ♂ intermed. et antic. articulus secundus aequè latus ac tertius. ♂. Long. 5 mm.

Black, slightly aeneous, shining. The ♂ (the only sex obtained), has the rostrum long, strongly dilated on its apical portion, the surface shining, finely and densely punctured. The eyes are very strongly convex, and prominent. Antennae with the first joint of the funiculus long, the following hardly longer. The prothorax is wide, strongly narrowed in front, and finely punctured. Elytra shining, with rows of moderately large punctures, the interstices slightly and narrowly raised, or convex, and finely punctured. The hind portion of the elytra is of the abrupt form usual in the section, and the apical segments of the hind-body beneath are inclined to the basal part. The femora are extremely stout, and the second joint of the front and intermediate tarsi very wide.

HAB. Oahu, Waianae mountains. A single ♂ only taken. Differs from the ♂ of *O. olindae* Blk., in the shorter rostrum, the coarser puncturation of the striae of the elytra, which are not distinctly margined at the base, etc.

(4) *Oodemias nivicola* Blackburn.

*Oodemias nivicola* Blackb., Ann. Soc. Ent. Belg. xxi. p. 75.

HAB. Maui, Haleakala (4000 ft. to the summit), outside the forest. Common and very variable in size, sculpture &c. Sometimes brightly shining, often quite dull.

(5) *Oodemus costatum*, sp. nov.

Ovatum, robustum, nitide aeneum. Rostrum nitidum, subtiliter punctatum, apice subdilatato. Antennarum articulus secundus et tertius fortissime elongati, fere aequilongi. Elytra seriatim punctata, interstitiis punctulatis, a basi usque ad apicem elytrorum distinctissime costatis. Tarsorum antic. et intermed. (♂) articulus secundus maximus, articulo tertio haud minus latus. ♂. Long. 5.5 mm.

Ovate, shining, bronzy black. Rostrum shining, finely punctured, dilated at the apex. Eyes convex, subprominent. Antennae with the first two joints of the funiculus very long, subequal. Prothorax shining finely and feebly punctured. Elytra striate, the striae strongly punctured, the interstices sharply raised from base to apex, giving the elytra a ribbed appearance, and finely punctured. Second joint of the anterior and intermediate tarsi of the ♂ very large, about as wide as the apical width of the lobate third joint, and rather longer than wide.

HAB. Kauai Mountains (4000 ft.). A very distinct species, of which only a single ♂ was taken.

(6) *Oodemus longicorne*, sp. nov.

Ovatum, robustum, aeneum, nitidissimum. Rostrum sat longum, apice dilatato, nitidum, subtiliter dense punctatum. Antennae longae, funiculi articulo primo fortiter elongato, secundo hoc vel longiore. Prothorax latus, nitidus, subtiliter punctatus. Tarsorum articulus secundus anticorum et intermediorum aequae latus ac tertius, et hoc multo longior. Elytra grossius seriatim antice punctata, interstitiis obscure costato-elevatis. ♂. Long. 5 mm.

This species is closely allied to *O. costatum*, but is very distinct by the sculpture of the elytra, the interstices only showing a faint tendency to the costate form of that species.

HAB. Kauai. Four examples (all ♂), taken on the high plateau.

(7) *Oodemus punctulatissimum*, sp. nov.

Nigroaeneum, nitidum, ovale, robustum. Antennae testaceae, graciles, sat elongatae, articulo secundo brevi, tertio minus fortiter elongato, sed secundo longiore. Rostrum nitidum, apice dilatato, fortiter deflexo, subtilissime punctatum. Oculi parum prominentes. Prothorax latus, nitidus, subtilissime (vix evidenter) punctatus. Elytra nitida, antice vix evidenter, postice paullo distinctius, striata, dense punctulata, apice fere recurvo. Pedes rufotestacei; tarsorum (♂) anticorum et intermediorum articulus secundus dilatatus, tertio vix minus latus. ♂. Long. 3.5 mm.

Remarkable in its group for the unusually short second joint of the funiculus which though evidently longer than the short first joint is less elongate than in the allied species, and for the dense puncturation of the elytra, the punctures on the striae (which are hardly perceptible in front) being very little larger than those on the interstices.

HAB. Oahu, Waianae mountains; 1 ♂ taken in April 1892.

(8) *Oodemas molokaiense*, sp. nov.

Ovatum, nigroaeneum, nitidum. Rostrum dense subtilius punctatum, apice dilatato, Oculi magni, prominuli. Antennarum articulus tertius fortissime elongatus, secundo fere bis longior. Elytra minus fortiter seriatim punctata. Tarsorum (♂) anticorum articulus secundus permagnus, aequè latus ac tertius. Long. 3.5—4.5 mm.

(Plate VIII. fig. 14, ♂; fig. 14a, anterior tarsus of ♂.)

Ovate, aeneous, more or less shining, generally brightly so, of more or less robust form. The rostrum is finely and closely punctured, its apical portion evidently dilated. The eyes are large and somewhat prominent. Antennae long, slender, the second joint of the funiculus very elongate, twice, or nearly twice, as long as the first. Prothorax broad, much narrowed in front, finely punctured, obsoletely so in some examples. Elytra with rows of fine punctures, sometimes with scarcely perceptible striation in front, in others with evident striae, the interstices very finely, subobsoletely punctured. Posteriorly the elytra are vertical, almost recurved, especially in the ♂.

Second joint of the front and intermediate tarsi in the ♂ very large, as wide as the lobate third joint, and rather longer. Apical ventral segments of the hind-body in a plane inclined to that of the basal segments. Rostrum shorter than that of the ♀.

Two examples (♂, ♀) from Lanai have the elytra more strongly striated, the punctures on the striae rather larger, and the interstitial puncturation rather more developed.

HAB. Molokai (3000—4500 ft.); Lanai (2000 ft.). Rare. Allied to *O. punctulatissimum*, but readily distinguished by the longer second joint of the funiculus, and the different puncturation of the elytra. The examples from Lanai might almost pass as a distinct species.

(9) *Oodemas chrysodorum*, sp. nov.

Castaneum, nitidum, conspicue aureo-micans, ovale, elytrorum lateribus bisinuatis. Rostrum longum, apice dilatato, rugoso-punctatum, saepe longitudinaliter carinatum. Oculi perdepressi. Pronotum haud transversum, antice fortiter angustatum. Elytra (antice saltem) obscure striata, striis saepe impunctatis, vel parce subtilissime punctatis. ♂ tarsorum anticorum articulus secundus fere aequè longus ac latus, articulus tertius

lobis magnis. Antennae crassiusculae, articulo 2° et 3° aut subaequalibus aut hoc longiore. ♂ ♀. Long. 3·75—5·2 mm.

(Plate VIII. fig. 15, ♂; fig. 15a, anterior tarsus of ♂; fig. 15b, of ♀.)

This species is readily distinguished by its bright golden-brown colour, the long rostrum (especially in the ♀), which has the apex slightly but evidently widened, and the feeble sculpture of the elytra.

HAB. Maui, Haleakala (5000 ft.); lives in the stems of *Rubus macraei*.

(10) *Oodemus brunneum*, sp. nov.

Anguste ovale, nitidum, brunneum, aureo-micans. Rostrum nequaquam dilatatum, rugoso-punctatum. Oculi convexi, haud fortiter depressi. Antennae crassiusculae, funiculi articulo secundo et tertio brevissimis, hoc illo longiore. Pronotum nitidum, subelongatum, subtiliter nec dense punctatum. Tarsorum ♂ anticorum articulus secundus latior quam longior, tertio evidenter angustior. Elytra nitida antice vix evidenter striata, seriatim subtiliter punctata, interstitiis etiam punctatis. ♂. Long. 3·25 mm.

This species somewhat resembles the preceding in colour, but the rostrum, which is not widened on the apical portion, the more convex eyes, the elytra much less strongly rounded behind the shoulders, and their more distinct puncturation (the punctures of the series are slightly larger than those of the interstices), will easily distinguish it.

HAB. Molokai, mountains (3000 ft.); 1 ♂.

(11) *Oodemus cupreum*, sp. nov.

Ovale, plus minusve nitidum, cupreum. Rostrum sat longum, apice haud dilatato, subtilissime punctatum. Antennarum funiculi articuli 2 basales parum longi, subaequales. Pronotum subelongatum, antice angustatum. Elytra subtiliter striata, seriatim, nec fortiter punctata, interstitiis sat crebre punctulatis. Long. 4—5 mm.

Elongate-oval, more or less shining, the elytra reddish or piceous, and of a distinct copper colour. Legs and often the antennae reddish. Rostrum rather long, not widened towards the apex, finely and more or less sparsely punctured. The two basal joints of the funiculus of the antennae are short, stout and of about equal length. Prothorax finely punctured, rather long and much narrowed in front. Elytra more or less feebly striate, the punctures of the striae distinct, but not coarse, the interstices with a much finer but distinct and more or less dense puncturation. The lobes of the front tarsi are small in all the specimens examined, but it is uncertain whether the ♂ sex is represented.

HAB. Maui, Haleakala (5000—6000 ft.); rare.

(12) *Oodemias crassicorne* Blackburn.

*Oodemias crassicorne* Blackb. Tr. Dublin Soc. III. 1885, p. 184.

The sexual distinctions are important in this species, the second joint of the front tarsi of the ♂ being much wider than that of the ♀.

HAB. Lanai Mountains (2000—3000 ft.). Not rare.

(13) *Oodemias haleakalae*, sp. nov.

Elongato-ovale, nitidum, aenescens. Rostrum rugoso-punctatum; oculi parum convexi. Antennarum articulo secundo brevi, tertio elongato. Pronotum haud transversum, antice angustatum. Elytra antice levissime vel vix striata, lateribus bisinuatis, striae subtiliter remote punctatis, interstitiis saepe crebre punctulatis, postice (praecipue ♀) sat convexis. Tarsorum ant. ♂ articulus secundus transversus, tertius hoc multo latior, lobis magnis. Long. 3—4.5 mm.

This species is closely allied to *O. crassicorne*, Blk. It varies greatly in size, small males being only about half the bulk of the female, and in sculpture, the puncturation of the elytra being much more developed in some examples than in others. It may be distinguished from the allied species by the longer rostrum and less convex eyes, and the former is generally more rugosely punctured, especially in the female. The rostrum is generally more or less evidently widened towards the apex, and is often distinctly carinate down the middle. The interstitial puncturation of the elytra is as a rule hardly less developed than that of the striae. Towards the apex (especially in the ♀) the interstices become rather strongly convex, the fourth, fifth and sixth terminating somewhat abruptly at the same point, a character which will distinguish this species from some others of very similar appearance (e.g. *O. tardum*, Blk.).

HAB. Maui, Haleakala (5000—6000 ft.); common.

(14) *Oodemias montanum*, sp. nov.

Nigroaeneum, nitidum, ovale. Antennae crassae, scapo brevi, funiculi articulo primo elongato, crasso, secundo subaequali. Rostrum nitidum, subfortiter punctatum, apice leviter dilatato, fortius decurvato. Oculi convexi et prominuli. Pronotum sat longum, subtilissime punctatum, antice fortiter angustatum. Elytra nitida, seriatim nec grosse punctata, vix evidenter striata, interstitiis subtiliter minus dense punctatis. (Sexus?) Long. vix 4 mm.

This species very closely resembles *O. tardum* Blackb., but the very stout



antennae, the first and second joints of the funiculus being elongate, subequal, and unusually stout, and the less punctured interstices of the elytra easily distinguish it. The single example taken is probably a ♂. The second joint of the front tarsi is short, subrotundate, and much less wide than the bilobate third joint.

HAB. Kauai. A single example taken on the high plateau in August, 1896.

(15) *Oodemias tardum* Blackburn.

*Oodemias tardum* Blackb. Tr. Dublin Soc. III. 1885, p. 184.

Several specimens taken on Haleakala I refer to this species, which in most respects very closely resembles *O. haleakalae* (q. v.). It would appear to be somewhat variable, but the material taken is quite insufficient for a proper understanding of the species.

HAB. Maui, Haleakala (4000—5000 ft.). Rare.

(16) *Oodemias obscurum* Blackburn.

*Oodemias obscurum* Blackb. Ann. Soc. Ent. Belg. XXI. p. 75.

var. *substrictum* Blackb. Ent. Mo. Mag. XVII. p. 200.

The characters afforded by the front tarsi of the ♂ are important for distinguishing this species. The lobate third joint is unusually small and the lobes short, the second joint is rather wide.

HAB. Maui, Haleakala (4000—5000 ft.); not rare.

(17) *Oodemias aequale* Blackburn.

*Oodemias aequale* Blackb. Tr. Dublin Soc. III. 1885, p. 184.

HAB. Lanai (2000—3000 ft.), where it is not rare.

(18) *Oodemias apionoides*, sp. nov.

Angustum, elongato-ovale, nigroaeneum, plus minusve nitidum. Rostrum punctatum, parte apicali levissime dilatata, prae insertione antennarum sat evidenter decurvata. Antennarum articulus secundus brevis, robustus, tertius huic subaequalis, vel paullo longior. Pronotum elongatum antice sensim angustatum. Elytra subtilissime striata, striis grossius remote punctatis, interstitiis parce (saepe subobsolete) punctatis. Tarsorum anticorum (♂) articulus secundus brevis, rotundus, tertius hoc multo latior, lobis parum magnis. ♂♀. Long. 3—3.5 mm.

A rather variable species, the punctures on the striae of the elytra being decidedly coarser in some examples than others, and sometimes also more numerous, and therefore less remote. The elytra are often of a bright bronzy colour. The ♂ is shorter than the ♀, and readily distinguished by the less elongated rostrum. The striation of the elytra is always very fine and sometimes hardly discernible in front. The widening of the rostrum towards the apex is sometimes hardly perceptible, and its puncturation is variable, being decidedly rugose in some examples.

HAB. Kauai Mountains (3000—4000 ft.). Not common.

(19) *Oodemias affine*, sp. nov.

Praecedenti cognatissimum, rostro brevior, elytris fortius et confertius seriatim punctatis distinguendum. ♂. Long. 3.25 mm.

Closely allied to *O. apionoides*. The rostrum is closely punctured, the apex somewhat strongly curved downwards, and it is evidently wider than that of the preceding species. The first joint of the funiculus of the antennae is very short and stout, the second rather longer than this. The prothorax is dull and remotely punctured, its sides slightly convergent from the base to front. The elytra are shining, brassy, distinctly striate; the striae coarsely punctured, and not very remotely. The interstices are distinctly but sparsely punctured. Second joint of the front tarsi (♂) very small, transverse, lobes of the third small.

HAB. Kauai, Makaweli (2000 ft.); 1 ♂ taken.

(20) *Oodemias parallelum*, sp. nov.

Laete aeneum, nitidissimum, angustissimum. Antennarum articulus secundus brevissimus, tertius fortiter elongatus secundo bis longior. Pronotum nitidum, antice minus fortiter angustatum, subfortiter punctatum. Elytra nitidissima, subtilissime striata, striis sat fortiter nec confertim punctatis, interstitiis parce distincte punctulatis. Tarsorum anticorum ♂ articulus secundus brevis transversus, tertius hoc multo latior, lobis magnis. ♂. Long. circa 3 mm.

This is a very distinct species. Its bright bronzy colour, very narrow form, comparatively strongly punctured thorax, long second joint of the funiculus of the antennae, &c., &c., readily distinguish it.

HAB. Oahu. A single ♂ taken on Kaala (Waianae Mountains) in December, 1892.

(21) *Oodemus graciliforme*, sp. nov.

Angustum, elongato-ovale, nitide aeneum. Rostrum subnitidum, subtiliter punctatum, apice levissime dilatato, evidenter decurvato. Antennarum articulus secundus et tertius elongati, subaequales. Pronotum haud transversum, antice fortius angustatum. Elytra nitida, levissime striata, striis remote nec fortiter punctatis, interstitiis haud crebre punctulatis, apicem versus elytrorum plus minusve convexis. Tarsorum ♂ anticorum articulus secundus parvus, subrotundus, quam dimidia pars tertii vix latior, hujus lobis haud magnis. ♂♀. Long. 3·75—4·5 mm. (Plate VIII. fig. 16.)

An elongate very narrow species of moderate size and bright bronze colour. The rostrum is slightly widened towards the apex, and bent downwards from about the line of insertion of the antennae. The first and second joints of the funiculus are elongate, and subequal. The prothorax is generally shining, and varies considerably in its puncturation, which is closer and stronger in some examples than others; its form is rather long and narrow, and it is much narrowed in front. The elytra are narrow, shining, bright brass-coloured or golden, with very fine but evident striae, which are a little deeper posteriorly, where the interstices are more or less convex. The punctures on the striae are not at all coarse, and are remote; the interstitial puncturation is much finer than these, and not dense.

In the ♂ the second joint of the front tarsi is small, about as long as wide, half the width of the lobate third joint, which is transverse, and not largely developed.

This species is distinct by the very narrow elongate form, bright bronzy colour, the subequal first and second joints of the funiculus of the antennae, fine striation of the elytra, and the fine puncturation of the striae.

HAB. Kauai, Halemanu; rare.

(22) *Oodemus ramulorum*, sp. nov.

Nigroaeneum, nitidum, ovale. Rostrum haud dense subtiliter punctatum, apice levissime dilatato, decurvato. Antennarum articulus secundus brevis, robustus, tertius gracilis, elongatus. Pronotum opacum, subtilissime, nec dense, punctatum, antice angustatum. Elytra nitidissima, plus minusve cupreo-nitentia, levissime striata, striis subtiliter punctatis, interstitiis minus dense subtilissime punctulatis. Long. 3—3·75 mm.

The two examples of this small elongate-oval species were obtained from the pith-cavity of a dry twig, resting side by side. It is probable that they may be the sexes of one species, although they differ somewhat in shape &c. That which is probably the ♂ has the prothorax slightly shorter and wider, and of a dull brassy-green colour. The

elytra are black, with a copper-coloured metallic tint. The second joint of the anterior tarsi is small, the lobes of the following joint rather large. In the other example, both thorax and elytra are of a very marked copper colour, the former is rather longer, and the sides of the latter less strongly rounded.

HAB. Oahu. Mountains near Honolulu (3000 ft.); two examples taken.

(23) *Oodemus leiothorax*, sp. nov.

Nigroaeneum, nitidum, ovale. Rostrum ♂ breve, ♀ sat longum, apice haud dilatato, distincte punctatum. Antennarum articulus secundus elongatus, tertio paullo (♂) vel multo (♀) longior. Pronotum nitidum, subtilissime (vix evidenter) punctatum. Elytra nitida, levissime (vix evidenter) striata, striis subtilissime remote punctatis. Tarsorum anticorum ♂ articulus secundus brevis, subrotundus, tertius lobis parvis. ♂♀. Long. 3.5 mm. (Plate VIII. fig. 17).

Apparently a very distinct species, by its antennae, the very feeble puncturation of the thorax, and the delicacy of the series of punctures on the elytra. The metallic tint of the latter is bronze-coloured and very distinct.

HAB. Kauai. High plateau; 2 ♂, 1 ♀ taken.

(24) *Oodemus flexirostre*, sp. nov.

Ovale, nigroaeneum, nitidum. Rostrum fortiter punctatum, ante medium fortius decurvatum, apice haud dilatato. Antennarum articulus secundus et tertius subaequilongi. Pronotum nitidum, sat distincte punctatum. Elytra nitida, levissime striata, striis remote parum fortiter punctatis, interstitiis subtiliter, nec dense, punctatis. Tarsorum anticorum lobi parvi. ♂ (?). Long. 3.5 mm.

Very similar to *O. leiothorax* in most respects, but distinguished by the more strongly curved rostrum, the much more distinct puncturation of the prothorax, and the less fine punctures of the elytra.

HAB. Kauai (4000 ft.). One example.

(25) *Oodemus dubiosum*, sp. nov.

Nigroaeneum, ovatum, elytris (♂) subnitidis. Rostrum (saltem in media parte) parce punctatum, apice haud dilatato. Antennae graciliores, articulo funiculi primo et secundo subaequilongis (♂), vel hoc longiore (♀). Pronotum latum antice fortius angustatum, subtiliter punctatum. Elytra striata, striis subfortiter punctatis, interstitiis distincte punctulatis. Tarsorum anticorum ♂ lobi parvi. Long. vix 4—4.5 mm.

Three examples taken in the same locality and at the same time are referred to this species, although they do not agree very closely in some respects. I have regarded the two smaller, and partly shining, examples as ♂, the larger, which is entirely dull, as the ♀.

The rostrum is narrow, the apex not at all dilated, the puncturation sparse throughout, or at least down the centre. The antennae are slender, the first and second joints of the funiculus in the ♂ are not very elongate, subequal in length, or with the second very slightly the longer. In the ♀ the difference between them is more pronounced, the first being evidently less long than the second. The prothorax is wide, dull, or at least not brightly shining, and finely punctured. Elytra somewhat shining in the ♂, quite dull in the ♀, lightly striate in the former, much more distinctly so in the latter, in which the punctures are decidedly coarse, more so than in the ♂. The lobate third joint of the anterior tarsi is very small for the size of the species. The metallic colour is more pronounced on the elytra than on the rest of the insect, and is bronzy. The general form is rather robust, especially the ♀.

HAB. Kauai mountains (Makaweli, 3000 ft.).

(26) *Oodemus striatum*, sp. nov.

Aeneum, elongato-ovale, nitidum. Rostrum subnitidum, crasse punctatum, apice haud dilatato. Antennae crassiusculae, funiculi articulo primo secundo evidenter brevior. Pronotum sat latum, dense punctatum. Elytra nitida, basi submarginata, fortissime striata, striis confertissime grosse punctatis, interstitiis convexis, conspicue punctulatis. Tarsorum anticorum lobi sat magni. (An sexus?) Long. 4.5 mm. (Plate VIII. fig. 26.)

This is a most distinct species of a bright bronzy colour and of elegant form, the elytra narrowing very gradually to the apex at a distance not far from their base. Their strong striation, with coarse close punctures, and conspicuous interstitial puncturation, together with the shape of the insect, readily distinguishes it from all others.

HAB. Kauai. A single example taken in the mountains behind Lihue (3000 ft.).

(27) *Oodemus puncticolle*, sp. nov.

Nigroaeneum, nitidum, oblongo-ovatum. Rostrum strigoso-punctatum, apice haud dilatato. Oculi convexi. Antennarum articulus secundus brevis, tertius elongatus, illo multo longior. Pronotum sat longum, crebre distincteque punctatum. Elytra nitida, seriatim nec fortiter punctata, postice fere verticalia, apicibus late rotundatis, striis obsoletis, interstitiis crebre conspicueque punctulatis. Tarsorum anticorum articulus bilobatus parvus. (An sexus?) Long. 4 mm.

Apparently a very distinct species. The elytra are much more parallel-sided than is usual in the genus (as in *O. pulchrum*, &c.), and are comparatively widely rounded at the apex. The interstitial puncturation is very distinct, and the traces of striation are very feeble even towards the apex. The metallic colouring is not very pronounced.

HAB. Kauai, Halemanu. One example taken.

(28) *Oodemias purpurascens*, sp. nov.

Robustum, oblongo-ovatum, nitidum. Rostrum rugoso-punctatum, apice haud dilatato. Antennarum articulus secundus brevis, tertius hoc multo longior. Pronotum sat longum, subtiliter densius punctatum. Elytra nitida, metallescentia, parum distincte striata, seriatim grossius foveolatim-punctata, interstitiis plus minusve, (nonnunquam crebre), punctulatis. Tarsorum anticorum ♂ articulus tertius parvus. ♂ ♀. Long. 4—5.25 mm.

The head and thorax are black with little or no metallic colouring, the elytra are very distinctly metallic, of a dark colour inclining to purple. The interstices are very faintly, sometimes hardly perceptibly, convex, their puncturation in the single ♂ is faintly impressed and not conspicuous as in the two females examined, but of the latter one has the interstitial puncturation considerably more strongly developed than the other. The ♂ is much smaller than either of the females. The species appears to be most nearly allied to *O. puncticolle*, from which it differs in the colour, in its more robust form, coarser punctures of the elytra, which are less vertical behind, and more pointed at the apex, &c.

HAB. Kauai (4000 ft.), 2 ♀; near Makaweli (3000 ft.), 1 ♂.

(29) *Oodemias pulchrum*, sp. nov.

Elongatum, oblongo-ovatum, nitidum, laete aenescens. Rostrum ♂ breve, ♀ sat elongatum, rugoso-punctatum. Antennarum articulus secundus (praecipue ♀) fortiter elongatus, tertius hoc longior. Elytra grosse seriatim foveolato-punctata, interstitiis apicem versus subacute elevatis. Tarsorum anticorum ♂ articulus secundus brevis, haud latior quam pars dimidia art. tertii. ♂ ♀. Long. 4.75—6 mm. (Plate VIII. fig. 18.)

Shining, elongate, oblong ovate, prothorax bronze-coloured, elytra bright metallic green. Rostrum very short in the ♂, considerably longer in the female, rugosely punctured. First joint of the funiculus of the antennae elongate, very strongly so in the ♀, the second joint generally still longer, but sometimes the two are nearly equal in length. Prothorax shining, much narrowed in front, not very wide at the base. Elytra very coarsely punctured, their surface brightly shining, the sides but little rounded, giving

the insect a more parallel-sided appearance than is usual in the genus; the striae on the apical portion of the elytra are very deeply impressed, so that the interstices are narrow, strongly convex, and almost sharp. In the ♂ the second joint of the front tarsi is small, short and transverse, about half as wide as the bilobate third joint.

HAB. Kauai (4000 ft.); rare. This is an extremely distinct species by its bright metallic colour, its extremely coarse elytral punctures, and its general form. In the latter respect the following species closely resembles it.

(30) *Oodemias oblongum*, sp. nov.

Praecedenti affine, nigrum, nitidum, parum aenescens, oblongo-ovatum. Rostrum opacum, rugoso-punctatum. Antennarum articulus tertius secundo longior. Pronotum nitidum, subtiliter punctatum antice angustatum. Elytra seriatim fortiter punctata, postice striis quam praecedentis minus fortiter impressis. ♂ ♀. Long. 5.75—6.5 mm. (Plate VIII. fig. 19.)

Similar in form to the preceding, black, and only slightly aeneous. The great difference in colour separates the two at once, as well as the finer puncturation of the elytra of the present species, the punctures though less coarse being more definite in form, and the striae towards the apex are less deeply impressed, the interstices consequently standing out less sharply. The interstitial puncturation is fine, more or less dense, and very distinct.

HAB. Kauai (4000 ft.); rare.

(31) *Oodemias grande*, sp. nov.

Nigrum, robustum, ovatum, parum distincte aenescens. Antennarum articulus secundus et tertius sat elongati, subaequales, vel hoc longiore. Rostrum rugoso-punctatum. Pronotum latum, nitidum, subtiliter punctatum. Elytra nitida, seriatim et confertim fortiter punctata, interstitiis dense et distinctissime punctulatis, postice haud convexim elevatis, striis vix videndis. ♀. Long. 7 mm. (Plate VIII. fig. 20.)

A large robust elongate-oval species, black, with a slight aeneous tint. The rostrum is rugosely punctured, rather long in the ♀, the sides nearly parallel, or slightly converging from the base. The two basal joints of the funiculus are both long, subequal, or the second the longer. The prothorax is very wide at the base, strongly narrowed in front, the surface shining, finely but distinctly punctured. Elytra shining, the striation excessively feeble even to the apex, the punctures of the series moderately large and close, the interstices densely and conspicuously punctured.

HAB. Kauai (4000 ft.); 2 ♀ taken. A very distinct species distinguished by its large size, elongate basal joints of the funiculus, the rows of large punctures on the elytra and dense and distinct interstitial puncturation.

(32) *Oodemias corticis*, sp. nov.

Nigroaeneum, plus minusve nitidum, elongato-ovatum, sat robustum. Rostrum crebre punctatum, apice haud dilatato. Oculi convexi. Antennarum funiculi articulus secundus primo longior. Pronotum latum, antice fortiter angustatum. Elytra crebre punctulata, lateribus bisinuatis, punctis, quae majora sunt, seriatim dispositis, striis parum distinctis, vel obsoletis. Lobi tarsorum anticorum parum magni. ♂ ♀. Long. 5—7 mm. (Plate VIII. fig. 21.)

This species of which I have examined a great number of examples, is very variable in almost every character. The rows of larger punctures on the elytra are sometimes very distinct, with the punctures themselves closely set, sometimes much less so, and the punctures remote from one another, or even for the most part obsolete. These punctures are shallow and by no means coarse, but larger than those of the interstices, which are nearly always well developed and distinct. Most examples have the surface shining, some brilliantly so, others are nearly dull. In spite of the variation exhibited, the species by its large size, and general form, &c., is one of those most easily recognized on a casual inspection.

HAB. Lanai, Molokai mountains, and Maui on Haleakala. Very abundant under the bark of trees.

(33) *Oodemias pachysoma*, sp. nov.

Ovatum, robustum, nigroaeneum, plerumque plus minusve nitidum. Rostrum distincte punctatum, apice haud dilatato. Oculi convexi. Antennarum articulus secundus et tertius subaequilongi. Pronotum latum, antice fortiter angustatum, subtiliter punctatum. Elytra levissime vel vix striata, seriatim vix fortiter punctata, interstitiis distincte subtiliter punctatis. Tarsorum anticorum utriusque sexus lobi parum magni. ♂ ♀. Long. 4.5—6 mm. (Plate VIII. fig. 22.)

A rather distinct looking species, of robust form, and not brightly aeneous. The rostrum in the ♂ is rather short, and wide at the base, becoming narrower towards the apex. The elytra are (at least in the ♂) wide near the base, the sides being strongly rounded from the shoulders. The sculpture is variable, consisting of rows of larger punctures which are sometimes closely placed (i.e. the punctures in each row), but in other examples are decidedly irregular. The interstitial puncturation is much more dense in some examples than in others, but it is nearly always conspicuous. The lobate third joint of the anterior tarsi is unusually small for the size of the species in both sexes. The general surface is more or less shining, but there is considerable variation in this respect.

HAB. Kauai mountains (4000 ft.).



(34) *Oodemias aeolosoma*, sp. nov.

Ovatum, nitidum, elytris ♂ aenescentibus, ♀ subcupreo-nitentibus. Rostrum ♂ brevius, nitidum, subtiliter punctatum, apice haud dilatato. Antennae graciles, articulis 2 basalibus funiculi elongatis, subaequilongis. Oculi convexi. Pronotum nitidum, subtiliter punctatum, antice fortiter angustatum. Elytra nitida, crebre punctulata, punctis quae majora sunt, seriatim dispositis, striis levissimis, vel obsoletis. Tarsorum anticorum lobi mediocres. ♂ ♀. Long. 4—4.5 mm.

This species is closely allied to the two preceding, but is a smaller and more shining insect. The puncturation of the elytra shows some variation, the punctures which are disposed in series being considerably coarser in some examples than in others, the density of the interstitial puncturation also varies.

HAB. Kauai, a few examples taken in the mountains at an elevation of 4000 ft.

(35) *Oodemias aenescens* Bohem.

*Oodemias aenescens* Boh., Eug. Res. p. 138, t. 2, f. 6.

(Plate VIII. fig. 23.)

HAB. Oahu and Lanai mountains. Remarkable for the extremely coarse puncturation of the base of the abdomen beneath. The length of the first and second joints of the funiculus of the antennae is a little variable, sometimes one and sometimes the other being slightly the longer.

(36) *Oodemias angustum* Blackburn.

*Oodemias angustum* Blackb., Ann. Soc. Ent. Belg. xxi. p. 75.

HAB. Oahu, Waianae mountains (Blackburn).

(37) *Oodemias halticoides* Blackburn.

*Oodemias halticoides* Blackb., Ent. Mo. Mag. xiv. p. 5.

HAB. Oahu mountains, 2000—3000 ft. (Blackburn).

(38) *Oodemias robustum* Blackburn.

*Oodemias robustum* Blackb., Ann. Soc. Ent. Belg. xxi. p. 75.

HAB. Oahu, Waianae mountains (Blackburn).

(39) *Oodemias insulare* Blackburn.

*Oodemias insulare* Blackb., Ann. Soc. Ent. Belg. xxi. p. 74.

HAB. Oahu (Blackburn).

(40) *Oodemias sculpturatum* Blackburn.

*Oodemias sculpturatum* Blackb., Ann. Soc. Ent. Belg. xxi. p. 74.

(Plate VIII. fig. 24.)

HAB. Maui, Haleakala (4000—5000 ft.). Not rare.

(41) *Oodemias nitidissimum*, sp. nov.

Nigroaeneum, nitidissimum, ovale. Rostrum subtiliter crebre punctatum, apice haud dilatato. Antennarum articulus secundus fortiter elongatus, tertio bis longior. Pronotum nitidissimum, subtiliter subobsolete punctatum, latum, antice fortiter angustatum. Elytra levissime (parum distincte) striata, striis remote subtiliter punctatis, interstitiis conspicue punctulatis. Long. 3.5 mm.

A very distinct species, easily known by the very long first joint of the funiculus of the antennae, the highly polished surface, and puncturation of the elytra.

HAB. Oahu, a single example taken in the Waianae mountains in April 1892.

(42) *Oodemias mauiense* Blackburn.

*Oodemias mauiense* Blackb., Ann. Soc. Ent. Belg. xxi. p. 75.

(Plate VIII. fig. 25.)

HAB. Maui, Haleakala (Blackburn). I have taken this species on Molokai and Hawaii in some numbers. It varies greatly in size, and otherwise. Examples from Hawaii are generally much more shining than those from Molokai.

(43) *Oodemias borrei* Blackburn.

*Oodemias borrei* Blackb., Ann. Soc. Ent. Belg. xxi. p. 75.

This species is sometimes quite brightly shining, and varies greatly in size.

HAB. Maui, Haleakala, above the forest. Commonly found in company with *O. nivicola* (from 6000—10000 ft.), attached to roots of grasses and low plants.

(44) *Oodemias konanum*, sp. nov.

Ovatum, robustum, nigroaeneum, opacum vel minus nitidum. Rostrum strigosopunctatum. Antennae graciles, minus breves, articulo funiculi primo brevi, quam secundus evidenter brevior. Pronotum basi latum, opacum (rare subnitidum) subtiliter punctatum. Elytra sat lata, subopaca, rarius nitida, grosse seriatim punctata, plerumque obscure vel vix evidenter striata, interstitiis nonnunquam convexiusculis, haud dense punctulatis. Long. 5—6 mm.

A large, wide, and robust species, generally dull, with the elytra a little shining, sometimes quite brightly so. The rostrum is so punctate as to have an appearance of longitudinal strigosity, but in some examples this is less evident. Prothorax generally quite dull from the microscopic rugulosity of the surface, finely, obscurely, and remotely punctured. In a few examples the puncturation is more evident. Elytra with series of coarse punctures, sometimes placed in evident striae, owing to the slight but evident convexity of the interstices, but the striation is vague and shallow. In many examples, however, there is little or no trace of interstitial convexity. The metasternum and base of the abdomen beneath are coarsely punctured. In spite of the variation in detail of the sculpture, this species is not difficult to recognize, by its large size and robust form, and the more or less dull surface. It is perhaps most nearly allied to *O. sculpturatum*, but that species is of shorter and more subquadrate form, and generally has the interstices of the elytra more distinctly convex.

HAB. Hawaii, Kona district (4000 ft.). About 40 examples were taken.

(45) *Oodemias multiforme*, sp. nov.

Nigroaeneum, nitidum, ovatum. Antennae sat graciles et elongatae, articulo funiculi primo minus elongato, quam secundus brevior. Elytra nitida, seriatim sat grosse punctata, interstitiis punctulatis. Long. 3—5 mm.

To the above species I refer all the specimens of *Oodemias* taken by me on Hawaii, except the series of *O. konanum* and a few specimens, which I consider a variety of that distinct species *O. mauense*. If I am right in my conclusions, the variation exhibited by *O. multiforme* is much greater than that of any other species, so much so that the extreme forms would not only appear to be totally distinct, but not even very closely allied. When, however, a great many examples are compared, these extreme forms are so connected by intermediates, as to make it impossible to decide where any line of separation can be drawn. For this reason we have not attempted to draw up any detailed description of the species, as such could apply to but a fraction of the examples we have examined. Indeed apart from generic characters, there are probably none which do not exhibit more or less variation. The brief description given above applies to a common form of the insect, and a number of this form were taken at Kilauea,

Hawaii. The chief points of variation which we have observed are as follows. Size very variable, the largest examples being three or four times the bulk of the smallest. Form sometimes robust, sometimes narrow and elongate, to some extent the variation being probably due to sex, as it is usual in other species for the ♂ to be shorter and wider than the ♀. In some the elytra become a good deal wider either a little behind the shoulders or still further back, while in some the curve of their sides is very even and forms an almost regular continuation of that of the sides of the prothorax. The surface of the insect is normally shining, others are less so, especially anteriorly, some are rarely quite dull. The rostrum varies in sculpture, sometimes it is finely and by no means closely punctured, sometimes the puncturation is dense and rugose. The antennae, which are slender, are not extremely variable, but they are longer in some examples than in others, and there is no doubt that some have the first joint of the funicle more slender and less short than others. The prothorax varies in width and in sculpture, generally it is finely punctured, sometimes more strongly and closely, sometimes very shining and almost or quite impunctate. The elytra are rarely dull, but frequently instead of being merely seriatly punctured, they have the punctures placed in evident striae, and the individual punctures of the rows are often remote, but sometimes close and regular, even in those near to the suture. Small examples from the Kona district are often excessively shining and have the puncturation of the elytra much more sparse and irregular. The eyes which normally are a little convex in a few specimens are hardly so at all.

We have attempted the division of the species on nearly all these characters and on minute differences in the rostrum, with the result that we have found that either a number of species must be made, with very indefinite distinctions between them, or that the whole series must be considered as one very variable species, which is possibly at the present time in the process of dividing into several, the division as yet being quite incomplete. It is of course possible that extended research into the habits etc. of some of these forms might prove that the views we hold are erroneous, and that there are really several variable species.

HAB. Hawaii, taken in various localities on both sides of the island from 2000—5000 ft.

(46) *Oodemias infernum* Blackburn.

*Oodemias infernum* Blackburn, Ent. Mo. Mag. xvii. p. 199.

HAB. Hawaii, Kilauea (Blackburn). I think it doubtful whether this is not a form of the preceding species, but as Mr Blackburn in his final consideration of the species (Tr. Dublin Soc. 1885, p. 187) includes it in those, which have a long first joint to the funiculus, whereas *O. multiforme* appears to belong to those which have this joint short, I have thought it safer to consider the two distinct.

## ANOTHEORUS Blackburn.

(1) *Anotheorus montanus* Blackburn.

*Anotheorus montanus* Blackb., Ent. Mo. Mag. xiv. p. 5.

HAB. Oahu mountains, on *Acacia koa*.

(2) *Anotheorus ignavus* Blackburn.

*Anotheorus ignavus* Blackb., *op. cit.* xvii. p. 201.

HAB. Maui, Haleakala (4000—5000 ft.); var. on Lanai; rare. This species approaches very closely to the preceding, and both vary in the shape of the thorax, and it is doubtful whether they are distinct. The Maui examples are most variable, and a single specimen from Lanai agrees better with these than with the Oahuan form.

(3) *Anotheorus robustus*, sp. nov.

Nigroaeneus, robustus, antennis tarsisque plus minusve testaceis. Rostrum subtilissime punctatum. Pronotum antice angustatum, plerumque nitidum, elytris multo angustius. Elytra lata, striata, striis confertim punctatis, interstitiis creberrime punctulatis. Long. (rostr. incl.) 6—8.5 mm. Lat. (exempli minim.) 3 mm. (Plate VIII. fig. 27.)

Although this species, of which I have examined 80, or more, examples, varies greatly in size, and sometimes in sculpture, its great size distinguishes it at once, the smallest examples being of about twice the bulk of either of the preceding.

HAB. Kauai mountains; common.

## Fam. SCOLYTIDAE.

The Scolytidae are represented by twenty-six species, three only being at present known to inhabit other countries, although some of the others will no doubt ultimately be found to be likewise of foreign origin. Only three genera are represented, *Xyleborus* with 19 species being the most extensive and important. There are six species of *Hypothenemus* known, and one of *Crossotarsus*. The latter, *C. externedentatus*, is already known to occur elsewhere, as also is the *Hypothenemus eruditus*, and one of

*Xyleborus* (*X. confusus*). The greater number of the species of *Xyleborus* and *Hypothenemus* are true forest insects and are no doubt peculiar to the islands. Owing to the extreme sexual differences exhibited by the species of *Xyleborus* it is impossible in most cases to unite the sexes from a mere inspection of the specimens, so that it is probable that some of the males described will prove to belong really to females described under another name, and therefore the species will be less numerous than they appear to be. So far as is at present known most of the species of this genus are restricted each one to a single island, and of those with a wider distribution some I suspect are not truly indigenous—*X. immaturus* for example—and will prove to have been imported by man. The species assigned to *Hypothenemus* are at present very imperfectly known, and would appear to be rare insects, and it is doubtful whether, excluding *H. eruditus*, they are true members of that genus. It may be remarked that in addition to the species here enumerated a small Scolytid has been recently imported into the islands, and is said to be very injurious to certain fruit-trees in some localities, but I neglected to collect or examine this insect.

Tribe TOMICINI.

XYLEBORUS Eichh.

(1) *Xyleborus molokaiensis*, sp. nov.

Elongatus, cylindricus, piceo-niger, setis aureis elongatis postice sparsim vestitus. Elytra subopaca, sat distincte seriatim punctata, parte declivi juxta suturam utrinque tuberculis minutissimis 2 vel 3, lineariter dispositis, munita. ♀. Long. 4.25 mm.

Distinguished by its large size and dull elytra, which bear on the apical declivous portion two or three very minute tubercles on each side of and near to the suture, and placed nearly in a line with one another. From the base of each of these tubercles springs a long fine golden seta. Exterior to each of these series of tubercles may often be detected one or two other excessively minute ones on either wing-case, and the general surface of this posterior portion of the elytra under a very strong lens is minutely asperulous.

HAB. Molokai, above 4000 ft. In the wet decaying wood of *Cheirodendron*.

(2) *Xyleborus kauaiensis*, sp. nov.

*X. molokaiensi* magnitudine et forma simillimus, elytrorum parte postica declivi similariter tuberculis munita, sed colore testaceo vel rufo-testaceo, elytris sat evidenter nitentibus distinguendus. ♀. Long. 4 mm.

HAB. Kauai, Halemanu and above Waimea (4000 ft.). Four examples taken.

(3) *Xyleborus mauiensis*, sp. nov.

Angustus, elongatus, cylindricus, niger, antennis pedibusque testaceis. Elytra vix nitida, seriatim punctata, puncturatione minus distincta, subobsoleta, postice setis pallidis pluribus vestita, parte declivi suturam juxta tuberculis 4 vel 5 minutissimis, lineariter dispositis, utrinque munita, et ubique minutissime sat distincte asperula. ♀. Long. 3.2—3.5 mm.

Closely allied to *X. molokaiensis* but much smaller and narrower, and with the posterior declivous portion of the elytra with more numerous setae. This area has also the appearance of being covered with rows of longitudinal and very minute asperities, apparently due to the mode in which the punctures are impressed. The tubercles are very minute, and form a row on each side near the suture, in each of which rows 3 to 5 tubercles can be distinguished on careful examination. The better developed ones are usually those in the middle of the series. On either side exterior to these rows other very obscure and minute tubercles may be sometimes distinguished.

HAB. Maui, Haleakala (5000 ft.). On *Cheirodendron*.

(4) *Xyleborus hawaiiensis*, sp. nov.

Niger, antennis pedibus testaceis, haud nitidus, *X. mauiensi* cognatissimus. Elytra opaca, subobsolete seriatim punctata, parte declivi suturam juxta tuberculis minutissimis 2 vel 3 lineatim utrinque armata, pilis brevioribus parum conspicue vestita, vix asperula. ♀. Long. 3 mm.

Apparently slightly less elongate than *X. mauiensis*, but extremely similar to it in nearly all respects. It may be distinguished from that species by the decidedly less hairy apical surface of the elytra, the hairs being less evident than those on the dorsal, and the general surface of the declivous portion is moreover not distinctly covered with very minute asperities.

HAB. Hawaii, Hilo (2000 ft.); four examples taken.

(5) *Xyleborus truncatus* Sharp.

*Xyleborus truncatus* Sharp, Tr. Dublin Soc. III. 1885, p. 192.

The elytra of this species are evidently shining, and it is smaller than any of the preceding. I have seen only two examples besides the types, and they are both darker than the latter, but otherwise nearly identical.

HAB. Oahu (Blackburn). Lanai, Hawaii, in the Kona district; one from each locality.

Obs. The five species enumerated above are extremely closely allied, and almost agree together in the character of the tubercles on the apical portion of the elytra, but so far as I can decide on the scanty material examined, the various forms are readily

distinguished by the characters given. It may be noted that four of the species apparently are limited in range to one or other of the islands, while the fifth has been taken on three different islands. Of this group of species I have further seen three examples, which appear to belong to none of the forms described above, nor yet do they agree together themselves, but the material is quite insufficient for deciding as to the specific value of the characters they exhibit.

(6) *Xyleborus obliquus* Sharp.

*Xyleborus obliquus* Sharp, Tr. Dublin Soc. III. 1885, p. 192.

HAB. Oahu and Hawaii (Blackburn); I have not met with this species.

(7) *Xyleborus lanaiensis*, sp. nov.

Nigricans, parum nitidus, elongatus, cylindricus, antennis pedibusque testaceis. Elytra subtiliter minus distincte punctata, postice sat abrupte declivia, parte declivi utrinque suturam juxta tuberculis 2 fortioribus lineatim munita, et subdepressa. ♀. Long. 3.6 mm.

Readily known from any of the preceding by the stronger development of the four tubercles of the posterior declivous portion of the elytra, these tubercles being placed two in a line on each side of and near to the suture, the upper pair near the commencement of the declivity, the others near the apex. From the base of each posteriorly springs a long fine seta, directed downwards and backwards. Outwardly to these larger tubercles there are on each wing-case one or two considerably smaller ones.

HAB. Lanai 2000 ft., January 1894. Three or four examples taken.

(8) *Xyleborus simillimus*, sp. nov.

Praecedenti (*X. lanaiensi*) simillimus et cognatissimus, parte declivi elytrorum eodem modo armata. Elytra subnitida, distinctius et minus subtiliter punctata, tuberculis 2 superioribus setas breviores ferentibus. ♀. Long. 3.4 mm.

Extremely like *X. lanaiensis*, but the elytra are somewhat striate, and the punctures are decidedly larger and more distinct, the surface somewhat shining. Apical armature much as in *X. lanaiensis*, the four larger tubercles being well-developed and there are a minute pair anterior to the upper pair of these, but these may be more or less evident in the preceding species also. The setae which spring from the base of the anterior pair of the larger tubercles are evidently less developed than those in the same position on *X. lanaiensis*.

HAB. Hawaii, above Hilo (1800 ft.); two examples taken.



(9) *Xyleborus oahuensis*, sp. nov.

Nigricans, antennis pedibusque testaceis, spp. duabus praecedentibus simillimus, sed paullo major. Elytra subtilissime sed subdistincte punctata, subnitida, parte declivi depressiuscula, tuberculis 6 sat distinctis, setas longas ferentibus, armata, horum 4 anterioribus curvatim dispositis. ♀. Long. vix 4 mm.

Very like the preceding two species, having four well-developed tubercles similarly disposed on the posterior portion of the elytra, two in a line on one side and two so placed on the other side of and near to the suture. Behind the anterior tubercles on either wing-case towards the side there is another distinct tubercle, these two and the anterior pair being placed in a curve. These sublateral tubercles are well-developed but smaller than the anterior and about equal to the posterior pair in size. From the base of each of the tubercles posteriorly a long fine seta rises. There are no evident smaller tubercles in this species.

HAB. Oahu. A single example was taken in the northern part of the Koolau range, at an elevation of about 1000 ft.

(10) *Xyleborus dubiosus*, sp. nov.

Castaneus, subnitidus, pedibus antennisque testaceis. Elytra subtilissime seriatim punctata, parte declivi minus abrupta, tuberculis 2 minus fortibus lineariter dispositis utrinque juxta suturam armata, necnon latera versus utrinque tuberculis aliis minutioribus 2 vel 3 lineariter dispositis munita, setis brevioribus. ♀. Long. 3.5 mm.

The single example above characterized is a very obscure species. The four larger tubercles of the posterior declivous portion of the elytra are less strong than those of the several preceding species, yet more so than those of the series ending with *X. truncatus*. In front of the anterior pair of these there is a third pair smaller and ill-developed, and in a line with the others. They are situated close to the suture just at the beginning of the posterior declivity, and in the unique example are placed quite obliquely and not opposite the one to the other. Besides this series there is a second one of about three minute tubercles on each wing-case towards the side.

HAB. Maui. A single example was taken in the Iao valley in 1894.

(11) *Xyleborus confusus* Eichhoff.

*Xyleborus confusus* Eichhoff, Ratio, Descr. emend. Tomicinorum (1879).

*Xyleborus insularis* Sharp, Tr. Dublin Soc. III. 1885, p. 193.

HAB. Oahu and Kauai (Blackburn); Oahu (both ranges), Maui, Kauai, Hawaii. At elevations from 1500—4000 ft. above sea-level. We are indebted to Mr W. F. H. Blandford for the identification of this species.

(12) *Xyleborus rugatus* Blackb.

*Xyleborus rugatus* Blackburn, Tr. Dublin Soc. III. (1885), p. 192.

HAB. Oahu. A single specimen taken. (Blackburn.)

(13) *Xyleborus frigidus* Blackb.

*Xyleborus frigidus* Blackburn, Tr. Dublin Soc. III. 1885, p. 193.

HAB. Maui. A single specimen taken on Haleakala, 4000 ft. (Blackburn.)

(14) *Xyleborus immaturus* Blackb.

*Xyleborus immaturus* Blackburn, Tr. Dublin Soc. III. 1885, p. 193.

I have taken what is probably the ♂ of this insect. It is testaceous or rufotestaceous in colour, but otherwise bears no resemblance to the ♀. Form short and robust, the whole insect hardly twice as long as wide, longitudinally convex. Thorax very narrowly rounded, or somewhat pointed, in front, of ovate form, truncate at the base. The sculpture is very feeble, and there is none of the coarse rugosity in front such as is seen in the ♀, and the clothing there consists of shortish and inconspicuous hairs. Elytra short, rather longer than wide in dorsal aspect, rather distinctly substriate, the striae finely punctured. There are no evident tubercles on their posterior portion. Length hardly 2 mm.

HAB. Oahu and Hawaii (Blackburn); Hawaii in various localities.

(15) *Xyleborus agamus*, sp. nov.

♂ castaneus, parum elongatus, tibiis omnibus plus minus obscuratis, tarsis pallidis. Pronotum magnum, antice acuminatum, ruguloso-punctatum, anterius et latera versus pilis longis vestitum, lateribus sat fortiter rotundatis. Elytra parce pilosa, desuper visa longiora quam latiora, haudquaquam striata, obscure confuse punctata, lateribus subcompressis. ♂. Long. 2 mm.

The form of the thorax is much like that of the ♂ assigned to *X. immaturus*, but its sculpture and clothing are very different, as also is the colour of the entire insect. The elytra are different in form and sculpture, having no trace of striation, and the punctures are very feeble and indistinct.

HAB. Lanai. Two examples were taken at an elevation of 3000 ft. in Jan. 1894.

(16) *Xyleborus exsectus*, sp. nov.

Nigricans, elytrorum basi nonnunquam rufescente, pedibus antennisque rufescentibus vel testaceis. Pronotum suboblongum, antice sat profunde excisum, et in processum latum, cujus apex truncatus, productum, lateribus pilis vestitis. Elytra leviter striata, striis subtiliter punctatis, setis parce vestita, parte declivi haud tuberculata. ♂. Long. 3.2 mm.

HAB. Maui. Three examples taken on Haleakala (5000 ft.). One of these is of a testaceous colour and is no doubt immature.

(17) *Xyleborus vulcanus*, sp. nov.

♂ nigricans, elytris thoracisque basi subpiceis, pedibus testaceis, oblongus. Pronotum parum distincte sculpturatum, elytris vix latius, lateribus parallelis, setis elongatis aureis parce vestitis, anterieus excisum, et in processum triangularem productum. Elytra sat elongata, rugulosa, vix evidenter punctata, parte declivi tuberculo minutissimo suturam versus utrinque munita. ♂. Long. 2.5 mm.

Much smaller than the preceding species, and very distinct by the pointed process of the pronotum. The posterior declivous portion of the elytra is somewhat abrupt, and on its upper portion on either side of the suture an excessively minute tubercle can be seen, each of which is furnished with a longish seta at its base, while some even more minute and hardly visible tubercles are placed in a transverse line with these.

HAB. Hawaii. A single example taken at Kilauea.

(18) *Xyleborus littoralis*, sp. nov.

♂ castaneus, pronoto plus minus nigricante, pedibus testaceis, oblongus. Species prima facie *X. vulcano* simillima, sed major, et minus angusta, pronoto antice fere similariter producto. Elytra substriata, grossius distincte seriatim punctata, parte declivi juxta suturam utrinque tuberculis minutissimis 2 vel 3 lineariter dispositis, aliisque paucis vel minutioribus et obscuris, munita. ♂. Long. 3 mm.

Easily distinguished from *X. vulcanus* by the substriate and somewhat coarsely punctured elytra, and the more numerous and rather more developed tubercles of the posterior truncation. These tubercles form two series on each side, those nearest the suture, though very minute, being fairly distinct, those external and subparallel to these are very minute and obscure.

HAB. A single example taken at sea level on Molokai, July 1893.

(19) *Xyleborus ignobilis*, sp. nov.

Nigricans, thorace nonnunquam obscure testaceo vel piceo, antennis pedibusque testaceis. Pronotum fere ad basim rugulosum, antice setis pallidis vestitum, lateribus rotundatis haudquaquam parallelis. Elytra plus minus obsolete seriatim punctata, setis pallidis brevibus, lineariter dispositis, vestita, postice haud abrupte declivia, parte declivi tuberculis nullis munita, nec impressa. Long. 2.7 mm.

This insect bears little resemblance to any other Hawaiian species of the genus, the elytra being simply rounded off behind and not at all abrupt, nor tuberculated, but sculptured as on the dorsal surface. The prothorax becomes gradually less rough from the front margin backwards, but it is more or less asperulous or rugulose to very near the basal margin, near which the rugulosities have a somewhat concentric arrangement.

HAB. Hawaii. Three examples taken, each in a different locality, two on the windward and one on the lee side of the island (2000 ft.).

## HYPOTHENEMUS Westw.

(1) *Hypothenemus eruditus* Westw.

*Hypothenemus eruditus* Westwood, Tr. Ent. Soc. London, I. p. 34; Sharp, *op. cit.* 1879, p. 102.

HAB. Oahu; Honolulu (Blackburn).

(2) *Hypothenemus maculicollis* Sharp.

*Hypothenemus maculicollis* Sharp, Tr. Ent. Soc. London, 1879, Pt. I. p. 101.

HAB. Oahu; mountains near Honolulu (Blackburn). I did not collect this species.

(3) *Hypothenemus griseus* Blackb.

*Hypothenemus griseus* Blackburn, Tr. Dublin Soc. III. 1885, p. 194.

HAB. Oahu; a single specimen taken on the plains near Honolulu (Blackburn).

(4) *Hypothenemus sylvicola*, sp. nov.

Minus elongatus, cylindricus, pallide testaceus, capite et pronoto plus minusve infuscat. Pronotum subtilissime granulato-sculpturatum, parte anteriore asperata, opacum, parce pubescens. Elytra pallida, setis pallidis vestita, subtilissime vix evidenter punctata, haud evidenter striata. Long. 1.5 mm.

In colour this species must greatly resemble *H. griseus* Blk., but that species has the elytra deeply striate. In some examples the asperities of the prothorax are but few, in others they are much closer and more numerous, and I suspect that the difference is sexual. The sculpture otherwise is excessively feeble and consists of a very dense and excessively minute granulation or puncturation, not definitely distinguishable even with a very strong lens. The clothing of the elytra consists of short pale setae, which in certain aspects appear to have a linear arrangement, and also of some longer fine hairs, which are particularly noticeable at the sides about the apex.

HAB. Lanai, 2000 ft. several examples.—Kauai, 4000 ft., one example taken. The latter has the thorax entirely pale and concolorous with the elytra.

(5) *Hypothenemus insularis*, sp. nov.

Cylindricus, angustulus, sat elongatus, niger, antennarum basi pedibusque rufo-testaceis. Pronotum anterieus fortiter asperulum et parce setosum, posterius opacum, subtilissime granulatum (an punctulatum?). Elytra setis brevibus griseis conspicue vestita, sat elongata (circa bis longiora quam basi latiora), evidenter punctata. Long. 1—1.4 mm.

Allied to *H. ruficeps*, but very different in superficial appearance, owing to its entirely black colour. The punctures on the elytra are not so very fine, but they are ill-defined. Apparently they are more or less serially arranged, but not in the definite manner seen in the last species, in fact the puncturation appears somewhat rugose.

HAB. Kauai. Two examples were taken at Makaweli, above 2000 ft.

(6) *Hypothenemus ruficeps*, sp. nov.

Cylindricus, sat elongatus, capite et pronoto rufescentibus, elytris nigris. Pronotum anterieus sat fortiter asperulum, postice opacum et parum distincte sculpturatum, parce pubescens. Elytra nitida, setis brevibus griseis sat conspicue (postice saltem) vestita, subobsolete striata, striis subgrosse punctatis. Long. 1.5 mm.

Distinct by the red head and prothorax, and black elytra. The punctures on the latter are somewhat coarse but not very definite, and are placed in subobsolete striae. The short whitish setae are dense and conspicuous on the posterior portion of the elytra, less so in front, but they have been partly abraded on this part.

HAB. Oahu; Kaala, Waianae range (2000 ft.); one example taken.

## Tribe PLATYPINI.

## CROSSOTARSUS Chapuis.

(1) *Crossotarsus externedentatus* Fairm.

*Crossotarsus externedentatus* Fairmaire, Rev. Zool. 1850, p. 51.

HAB. Oahu; Honolulu (Blackburn).—I cut a pair of this species out of a hard trunk of *Acacia koa*, at an elevation of 1000 ft. in the northern part of the Koolau range.

## Fam. ANTHRIBIDAE.

The Anthribidae are very poorly represented in the islands, only three species having occurred. Two of these species are at present not known from elsewhere, and one of them constitutes a peculiar genus, but there is little doubt that all are foreign insects, and will ultimately be found in other countries.

## ARAEOCERUS Schönherr.

(1) *Araeocerus fasciculatus* De Geer.

*Curculio fasciculatus* De Geer, Ins. v. 276, t. 16, fig. 2.

HAB. Abundant all over the islands in the mountains. The large number of constant varieties in markings, as well as the great variation in size of this species is remarkable.

(2) *Araeocerus constans*, sp. nov.

*A. fasciculato* simillimus sed statura majore, totus dense griseo-pubescens, haud variegatus, tarsi anterioribus ♂ robustioribus, et tarsi ♀ longioribus distinguendus. Long. circa 5 mm.

Very closely allied to *A. fasciculatus*, but larger than the larger examples of that species, not varying much in size, and uniformly covered with dense grey pubescence. In colour the integument is blackish and reddish fuscous, the antennae towards the base and the tibiae are more or less red. When the pubescence is removed, the pronotum is seen to be dull and very densely punctured, and the elytra bear each about ten rows of very distinct and regular punctures, the interstices having a dense shallow and very minute rugulose puncturation. Both sexes may be distinguished structurally from *A. fasciculatus* by the thicker anterior tarsi, so that the ♂ of the latter rather resembles the ♀ of the former, and these parts are longer in the ♀ of *A. constans*.

HAB. Hawaii, Kona; on the coast; found in the flowers of the white poppy.

MAUIA Blackb.

(1) *Mauia satelles* Blackb.

*Mauia satelles* Blackburn, Tr. Dublin Soc. III. 1885, p. 195.

HAB. Maui; Wailuku valley, where one specimen was taken by Blackburn. I have not met with this species.

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Fam. PROTERHINIDAE.

This remarkable family is peculiar to the Hawaiian islands, and all the species, of which 122 are at present known, are assigned to the genus *Proterhinus*. These species exhibit so much diversity in structure that the extreme forms would appear to be certainly generically distinct, but they are so connected by intermediate forms, that it is inadvisable to attempt a further division of the genus until the species are more thoroughly known. At present, owing to the great number of the species, the close alliance between many of them, their variability, and the great sexual differences, the mere separation of the species is attended with the greatest difficulty. The figures on Plates IX. and X. will show to some extent the diversity in structure and appearance exhibited by these insects, and the specimens figured have been chosen for this purpose, rather than with a view to exhibiting the minute distinctions between closely allied species—an almost hopeless task in dealing with insects so variable both in structure and in superficial appearance.

In the Cambridge Natural History in the classification of the Coleoptera Dr Sharp leaves the Proterhinidae as well as the somewhat similar insects comprised in the family Aglycyderidae unclassified. The former have much more the appearance of Rhynchophora than the latter, since the beak is always distinct and definite in *Proterhinus*, at least in the female sex. In the ♂ however it is hardly more than a simple prolongation of the head, and only very rarely does the rostral portion attain a length greater than its width. The female beak on the other hand is in most cases elongate, and on account of its shining surface and absence of squamosity extremely definite. It is noteworthy that in a considerable number of species, which have the rostrum in the ♀ below the average in development, the rostrum of the ♂ is above the average, so that the sexual differentiation is less than usual, and I believe that these species are the more primitive, and their resemblance to the members of the Aglycyderidae is greater than that of the other forms. The Proterhinidae are however always distinct from *Aglycyderes* by the definite rostrum of the ♀, and by the structure of the tarsi which are really four-jointed, the small division at the base of the claw-joint, being a true joint and not a mere constriction as in *Aglycyderes*. With regard to the

structure of the prothorax in these insects to which considerable importance was attached by Dr Leconte, who regarded *Proterhinus* as belonging to the Rhynchophora and *Aglycyderes* as related to the Colydiidae (see quotation from a letter, Trans. Ent. Soc. Lond. 1879, Pt. I. p. 78), it may be noticed that the differentiation between the dorsal surface and flanks is much more marked in a few species than in the majority of *Proterhinus*, which, as Sharp (*l. c.* p. 80) has remarked, is also the case with the two species of *Aglycyderes*, the New Zealand species having the differentiation between the parts of the prothorax less definite than the Canarian species.

The characters which I have found most useful in the separation of the species are the nature of the clothing, the size and form of the eyes and of the lobes of the front tarsi, the condition of the humeral angles of the elytra, the shape of the prothorax, the length of the antennal joints, and the development of the club (or 3 apical joints), and the puncturation of the abdomen beneath. In few species are any of the characters constant, when a long series of examples are examined, the size of the individuals being extremely variable, and these depauperated examples often have the structures characteristic of the species much modified. For these reasons I have not found it easy to identify the numerous species hitherto described, although through the kindness of Dr Sharp I have been able to carefully examine the types of all the species described by him. The description of most of these species was drawn up from only one or two examples, and except in the case of a few of the most distinct species, such material is quite inadequate for an accurate knowledge of the species. In several cases when I have referred a species taken by myself to one already described by Dr Sharp, I have not been able exactly to match the types with any individual even in a series of specimens, and it is probable that this is due to the specimens having been captured in a slightly different locality to that whence the typical examples came, but it is of course possible that some of the species have themselves undergone slight changes during the last quarter of a century.

Of the 122 species known 8 only appear to extend their range beyond a single island, and in few, if any, of these do the examples from different islands altogether agree, while several of these species inhabit only two of the closely adjoining intermediate islands of the group. Of the species that restrict their range to a single island Kauai has 29, Oahu 28, Maui 27, Lanai 9, Molokai 9, and Hawaii 12. To facilitate the discrimination of the species I have arranged the species in seven divisions, one for each island and comprising the species peculiar to it, the seventh containing the few species which are found on more than one island.

Nearly all the species are attached to the dead or dying wood of the forest trees, and the individuals frequently congregate in small batches beneath the bark, in which the larvae feed, and they are very sluggish in their habits. Several are found in the stems of tree-ferns, and one or two are attached to smaller ferns (*Pteris* etc.), while a few live on small shrubs and woody creepers.



## A. Species insulae Kauai propriae.

(1) *Proterhinus gigas*, sp. nov.

Robustus, pallide squamosus, nigricans, antennis, pedibus elytrisque saepe plus minusve rufescentibus. Oculi magni, fortiter prominentes. Antennae graciliores, articulis elongatis, tertio quam secundus bis longiore. Pronotum inaequale, 3-impressum, rugoso-punctatum, antice constrictum, pallide squamosum, margine antico lateribusque setis curvatis vestitis. Elytra lata, squamis pallidis necnon setis erectis, sat conspicuis, vestita, basi juxta scutellum utrinque tuberculata, humeris fortiter productis. Pedes setis erectis conspicue vestiti. Abdominis segmentum primum ventrale circa medium obsoletissime, latera versus et ad basim fortiter punctatum. ♂ ♀. Long. 4—5.5 mm. (Plate IX. fig. 1, ♂.)

This large species can hardly be confused with any other, although it varies considerably in size and in other respects. The 8th joint of the antennae is sometimes a little longer, sometimes a little shorter than the 9th, and generally they are subequal. In a few examples out of a long series the 8th is considerably the shorter of the two, as is usual in most species of the genus. The surface of the elytra, except for the depression formed between the shoulders and the tubercle on either side of the scutellum, is nearly evenly convex.

HAB. Kauai (4000 ft.). Under bark of *Cheirodendron* only.

(2) *Proterhinus crassicornis*, sp. nov.

Forma, facie, et magnitudine fere praecedentis, sed antennis brevioribus, articulis multo crassioribus, abdominis segmento 1° ventrali circa medium fortiter et distincte punctato, bene distinctus. ♀.

HAB. Kauai mountains (2000—3000 ft.). Only two examples were taken, owing to the erroneous supposition that they were identical with those of the preceding species, which is found on the high plateau of the same island.

(3) *Proterhinus anthracias*, sp. nov.

Niger, vel piceo-niger, latus, antennis pedibusque saepe rufescentibus. Oculi magni, prominentes. Antennae graciliores, scapo brevi, articulo secundo tertioque una conjunctis multo brevioribus, clava gracili. Pronotum antice fortiter et abrupte constrictum (vel nonnunquam tantum angustatum), anteriusque profunde foveatum, angulis posterioribus macula pallida squamosa sat conspicue signatis. Elytra lata, maculatim squamosa,

setisque erectis et elongatis vestita, fortiter punctata, humeris productis. Abdominis segmentum primum ventrale, vel ad medium, grosse fortiterque punctatum. ♂ ♀. Long. 3—4.75 mm.

A species of wide and somewhat depressed form, rather scantily clothed with squamosity, forming in fresh examples a number of roundish spots on the elytra, which also bear pale erect setae. The scape of the antennae is not long, being evidently shorter than the two following joints united. Second joint evidently longer than wide, but very much shorter than the third. All the other joints elongate, the 8th shorter than the 9th, the latter with the two following forming the long and slender club. Eyes large and prominent. Thorax usually strongly and abruptly constricted in front, but variable in this respect. In front there is a deep and conspicuous impression, and sometimes two lateral, and one posterior (near the hind-margin about the middle) as well, but all except the anterior one may be obsolete. The posterior angles of the thorax are very clearly marked, being covered with a spot of dense pale squamosity. Elytra wide, roughly punctured, generally more or less flattened, the sides somewhat strongly rounded, the shoulders prominent. Lobes of the front tarsi only moderate in size, or even small for the size of the insect. Whole body beneath coarsely and closely punctured.

HAB. Kauai, widely distributed and not rare (2500—4000 ft.). Remarkable for its dark colour, wide form, the distinct spots of squamosity on the posterior angles of the thorax, and the clothing of the elytra, which consists of long fine erect setae, and numerous, often rather ill-defined, spots of appressed scales.

(4) *Proterhinus eugonias*, sp. nov.

Sat latus, nigricans, piceus, vel rufescens, pallide squamosus. Antennae graciles, clava sat evidenter 3-articulata. Oculi parum fortiter prominentes. Pronotum profunde 3-impressum. Elytra sat lata, convexa, parte basali depressa, minus fortiter nec dense punctata, pallide squamosa, setisque erectis parce vestita, humeris late ac fortissime productis. Segmentum abdominis primum (saltem ad medium) vix evidenter punctatum. ♂ ♀. Long. 2—3.5 mm. (Plate IX. fig. 2, ♀.)

This species is allied to *P. basalis* Sh. It varies greatly in size but is a smaller insect than the other. The form is wide and somewhat short, the colour varies from black to red. The squamous covering is of a golden or silvery colour.

Antennae moderately long, slender, generally clear red with the apical joints dark, the club distinctly formed of three joints but rather slender and elongate. Eyes moderately large, but not at all strongly prominent; no ridge between the vertex and front of head. Thorax with three very deep impressions, the anterior the largest; immediately in front of each of the posterior ones the squamosity forms a dense patch,

different to the general covering. Elytra short, seen from the side strongly convex longitudinally, with golden or greyish appressed squamosity, and sparse erect white setae, which are chiefly found towards their apex, the basal portion is transversely flattened or depressed. Humeral angles widely and extremely strongly produced. Tibiae, tarsi, and sometimes the femora, red; lobes of the front tarsi of moderate size. Basal segment of the abdomen beneath with the puncturation obsolete, at least over its middle portion. Hind coxae widely separated, the distance between them considerably greater than the length of the metasternum.

HAB. Kauai mountains (4000 ft.). Differs from *P. basalis* Sh. in the smaller average size, more strongly produced humeral angles of the elytra, their less numerous erect setae, and the patches of dense squamosity in front of the posterior impressions of the thorax. Both species vary much, but no doubt they are distinct.

(5) *Proterhinus basalis* Sharp.

*Proterhinus basalis* Sharp, Tr. Ent. Soc. London, 1879, p. 98.

I have examined a series of examples of this species. The humeral angles of the elytra are a good deal more strongly produced in some individuals than others. The squamous covering is sometimes of a ferruginous colour, but more often greyish. The shape of the thorax is variable, but usually is more or less abruptly constricted in front. The length of the insect varies from 2.5—4 mm.

HAB. Kauai mountains (2000—4000 ft.); not common, but widely distributed.

(6) *Proterhinus dubiosus*, sp. nov.

Sat latus, rufescens vel piceus, aureo-squamosus. Oculi parum fortiter prominentes. Antennarum articuli 3 apicales clavam formantes. Pronotum sat evidenter 3-impressum. Elytra lata, aureo-squamosa, minus fortiter nec dense punctata, basali parte plus minusve impressa, scutellumque juxta utrinque tuberculata, setis erectis paucis, brevibus et inconspicuis, humeris fortiter acute productis. Abdominis segmentum primum ventrale ad medium vix evidenter punctatum. ♂ ♀. Long. 2—3.2 mm.

The above characters are drawn up from typical examples, but as a matter of fact almost all the structures vary in this species, and series of individuals from different localities nearly always present more or less considerable differences. Thus in the typical examples the antennae are somewhat stout, the club distinctly of three rather wide joints. In some localities the antennae are decidedly more elongate and slender. The squamosity appears to be always of a golden colour. The thorax has three impressions and is not very densely squamose. The elytra have the humeral angles strongly

and acutely produced, their basal portion is more or less flattened or impressed (not very definitely so as in *P. basalis*), they have only a few short and inconspicuous erect setae, are rather finely and not very densely punctured, and are evenly convex transversely, except at the base. The lobes of the tarsi are of moderate size. The basal abdominal segment is hardly visibly punctured, at least on its middle portion. Examples of this species taken at low elevations (2000 ft.), differ from typical ones in all or some of the following characters. The antennae are shorter and thicker, the insect is of narrower form, the elytra have the humeral angles less produced, and are less impressed at the base, while the front tibiae are often extremely short and wide. Some of the abnormal individuals taken with typical examples however possess some of these characters.

HAB. Kauai. Common above Waimea at an elevation of 4000 ft. The examples most aberrant in one direction come from Halemanu (4000 ft.), in the other from Makaweli (2000 ft.).

(7) *Proterhinus difficilis*, sp. nov.

Rufescens vel piceus, sat latus, minus dense pallide squamosus. Antennae graciliores. Oculi haud fortiter prominentes. Pronotum minus dense squamosum, 3-impressum, antice saepe abruptius constrictum. Elytra pallide squamosa, setisque erectis brevibus sed conspicuis vestita, longitudinaliter obscure carinata, humeris productis. Abdominis segmentum primum ventrale circa medium sparsim subobsolete punctatum. ♂ ♀. Long. 2.25—3.5 mm.

In form and general appearance very similar to *P. dubiosus* but a rougher insect. The squamosity is less appressed, the erect setae of the elytra are more numerous, their puncturation is more pronounced, and the surface less even, there being traces of longitudinal ridges extending back from the shoulders. These ridges in fresh examples are rendered more distinct by the squamosity which is somewhat condensed along them. The humeral angles are less strongly produced forwards than in well-developed examples of *P. dubiosus*. The examination of a series of individuals of both species is necessary for an appreciation of the specific characters, as both vary greatly in size, and in the development of the structural characters which distinguish them.

HAB. Kauai mountains. Less common than *P. dubiosus*.

(8) *Proterhinus eulepis*, sp. nov.

Sat latus, nigricans, elytris rufescentibus, nigro-maculatis. Antennae graciles sat elongatae. Pronotum squamis appressis vestitum, angulis posterioribus distinctis, maculaque pallida squamosa signatis. Elytra squamosa, setisque erectis brevioribus

pallidis vestita, minus dense punctata, humeris acutis et productis. Abdominis segmentum primum ventrale vel ad medium fortiter et distincte punctatum. ♂ ♀. Long. 2.5—3.25 mm.; var. *minor*, 1.75—2 mm. (Plate IX. fig. 3. ♂.)

This is another variable species, very closely resembling typical *P. dubiosus* in form. The antennae are slender and rather long, the three-jointed club being also slender. The thorax is covered with squamosity, and has sometimes three impressions, but the two posterior ones may be obsolete. Its hind angles are a little prominent, and rendered more distinct by bearing a spot of pale squamosity, which is more dense than that of the general surface. The elytra appear to be always red, more or less spotted with black, the black spots being free from squamosity. They are nearly evenly convex in shape, the basal tubercles near the scutellum being absent or very ill-developed, their basal margin is rather deeply and regularly emarginate, so that the shoulders are produced and acute, and are free from the base of the thorax. The erect setae are short and white, but rather conspicuous in fresh examples, especially at the sides of the elytra. The puncturation is not very dense. All the femora are strongly clavate. Beneath, the basal abdominal segment is strongly and distinctly punctured, although towards the middle the punctures are more remote than at the sides. Very small examples (var. *minor*) apparently referable to this species are not infrequent, but there appears to be no good character to separate them, unless the more obsolete puncturation of the base of the abdomen beneath should prove constant.

HAB. Kauai mountains (4000 ft.).

(9) *Proterhinus neglectus*, sp. nov.

Rufo-piceus, sat latus, elytris rufescentibus, nigro-maculatis. Antennae totae rufae, sat elongatae, sed crassiusculae, clava distincte 3-articulata. Pronotum aureo-squamosum, antice fortiter impressum, dense rugoso-punctatum, postice minus fortiter angustatum, angulis posterioribus sat distinctis. Elytra minus dense punctata, submaculatim squamosa, setisque brevibus pallidis vestita, sat lata, humeris acutis, evidenter productis. Femora omnia fortiter incrassata. ♂ ♀. Long. 2.8—3.2 mm.

This species has very much the form and general appearance of large typical examples of *P. eulepis*. In the two examples taken the anterior thoracic impression is large and distinct, the others are obsolete. The hind angles are distinct, and appear to be marked by spots of denser squamosity than that of the rest of the thorax. The elytra are nearly evenly convex, there being little or no trace of the tubercles at the base near the scutellum, but they are a little flattened transversely behind their basal margin. The humeral angles are acute and formed like those of *P. eulepis*. From that species *P. neglectus* is at once distinct by the thicker antennae, the intermediate

joints being quite stout, whereas in the other they are very slender. This seems to be the only good character to distinguish the two, and it may be observed that the specific differences between *P. gigas* and *P. crassicornis* are quite similar.

HAB. Kauai. A single pair (♂ ♀) were taken together on the high plateau in April, 1895.

(10) *Proterhinus collaris* Sharp.

*Proterhinus collaris* Sharp, Tr. Ent. Soc. London, 1879, p. 96.

This species is very similar in form and general appearance to *P. eulepis*, but may be distinguished by the unusual length of the scape of the antennae. The second joint is very short, the third elongate and slender. In the ♂ the eyes are unusually remote from the anterior margin of the thorax. The squamosity of the elytra appears to be much broken up to form roundish spots. The thorax is decidedly elongate. In their systematic catalogue Blackburn and Sharp have sunk this species as a variety of *P. nigricans*, but I cannot think the two are identical, *P. collaris* being a larger insect, and very different in general appearance, the ♂ having relatively smaller eyes, and much more remote from the thorax, while the basal joint of the antenna in the ♀ is much more elongate and more slender, than in *P. nigricans* ♀.

HAB. Kauai mountains (Blackburn). I have not met with this species, and have seen only the two types in Dr Sharp's possession, and two or three individuals in the British Museum from Blackburn's collection.

(11) *Proterhinus amaurodes*, sp. nov.

Statura parva, vel saepe minima, nigricans vel rufo-piceus. Antennae sat graciles. Pronotum dense rugoso-punctatum, parum squamosum, antice impressum, haud constrictum, lateribus rotundatis. Elytra obscure sed dense punctata, ad humeros macula pallida squamosa, et postice maculis rotundatis compluribus ornata, humeris plus minusve productis, semper acutis et distinctis, setis erectis inconspicuis et brevissimis. Tarsorum lobi parvi. Abdominis segmentum primum ventrale subfortiter punctatum. ♂ ♀. Long. 1.5—2.5 mm.

In well-developed examples this is rather a distinct little species. The squamosity of the thorax is sparse, and that of the elytra is much broken up, forming distinct spots. There is always a distinct patch extending back from the humeral angles, and a number of roundish spots on the posterior parts of the elytra. The antennae are moderately long and slender, with 3-jointed club. There is usually a distinct impression on the thorax in front, the posterior impressions being absent or nearly obsolete. The humeral

angles of the elytra are always sharp and distinct, and in well-developed examples evidently, though not strongly, produced. The lobes of the front tarsi are small. The colour of the insect is typically black, the squamosity of the elytra being placed on paler (piceous or reddish) spots, but in many examples (especially from certain localities), the whole elytra are rufo-piceous or reddish. The species appears to be allied to *P. vestitus*.

HAB. Kauai. Common generally (from 2000—4000 ft.). Often so covered with a wax-like excretion as to be only recognizable after the most careful cleaning.

(12) *Proterhinus nigricans* Sharp.

*Proterhinus nigricans* Sharp, Tr. Ent. Soc. London, 1879, p. 95.

In its typical condition this species is remarkable for the size of the basal joint of the antennae in both sexes, that of the ♂ being also considerably longer than is usual in the genus. I have not met with any examples that altogether agree with the types, but one ♂ has the antennae similarly formed, while its eyes are somewhat smaller. Others which have the eyes as in the type have the basal joint of the antennae less developed. The colour of the elytra varies from black to reddish-pitchy with black markings. The squamosity of the thorax is not dense, but the posterior angles are distinctly marked by a small dense spot of pale scales. The species is no doubt distinct, although closely allied to *P. amaurodes*, *collaris*, &c., with which it agrees in the strong puncturation of the basal ventral segment of the abdomen.

HAB. Kauai. On Waialeale, 3000 ft. (Blackburn). Makaweli (2000—3000 ft.), and behind Waimea (4000 ft.). Apparently not common.

(13) *Proterhinus binotatus*, sp. nov.

Rufescens, capite thoraceque saepe obscuratis, elytris plaga utrinque magna nigricante maculatis. Antennae nigrae articulis basalibus rufescentibus, clava haud abrupte 3-articulata. Pronotum ex majore parte parce squamosum, latera versus densius squamoso-maculatum, rugoso-punctatum, antice subimpressum. Elytra, partibus nigricantibus exceptis, pallide squamosa, setisque brevissimis, albidis, et erectis vestita, angulis humeralibus parum productis, sed distinctis, et subacutis. Pedes omnes setis brevibus erectis vestiti, lobis tarsorum anticorum magnitudine mediocribus. Abdominis segmentum primum ventrale minus distincte punctatum. ♂ ♀. Long. 2·2—2·6 mm.

This obscure species appears to be closely allied to *P. simplex* Sh. of Oahu, but it is readily distinguished from the well-developed examples of that species. The elytra

are widely red at the base, and covered with pale squamosity, generally over a sub-triangular area; behind this are two large black, or dark, lateral spots, extending nearly to the suture, and free from squamous covering; the apical portion is often more or less infusate, and the squamosity broken up into spots.

HAB. Kauai mountains (4000 ft.); found very sparingly on several occasions.

(14) *Proterhinus scutatus* Blackb.

*Proterhinus scutatus* Blackburn, Tr. Dublin Soc. III. 1885, p. 169.

I have taken only three or four examples of this species, which mostly quite agree with those collected by Mr Blackburn. This insect is much less clothed with squamosity than most of the species, the thorax being nearly bare, and the elytra in fresh examples very little squamose, except for two longitudinal lines extending backwards from their shoulders; but the latter bear numerous short and rather thick erect setae, which are pale in colour and quite conspicuous. In structure this species closely resembles some examples of *P. simplex*, but it is no doubt distinct.

HAB. Kauai, 2500 ft. (Blackburn); (2000—4000 ft.), in the Waimea district.

(15) *Proterhinus setulosus*, sp. nov.

Ferrugineus, elongatus, angustulus, setulis erectis brevibus vestitus, elytris nonnunquam nigro-maculatis. Antennae plerumque breviores, concolores, rufae. Rostrum ♀ breve, fortiter longitudinaliter rugosum, paullo vel haud longius quam latius. Pronotum minus latum, plerumque plus minusve evidenter 3-impressum, setis appressis parce, aliisque erectis, vestitum. Elytra fortiter elongata, lateribus subparallelis, subseriatim punctata, setis brevibus erectis vestita, vix aequaliter convexa, angulis humeralibus distinctis, paullo productis, vel fere rectis. Femora postica parum fortiter clavata, tarsorum anticorum lobis parvis. ♂ ♀. Long. 2.5—3 mm.

In its rufescent colour, elongate elytra, and the absence of squamosity, this species somewhat resembles the *P. longulus* Sh. of Oahu, and the other species allied thereto. It is however more nearly allied to *P. blackburni* Sh. &c., the second joint of the antennae in certain aspects being not much shorter (though more robust) than the third, and the short rostrum of the ♀ is coarsely sculptured. The seven or eight examples taken exhibit some variation, the antennae being decidedly less short in some than in others. The dorsal surface of the elytra is somewhat flattened, and, at least in some examples, there are traces of longitudinal raised lines.

HAB. Kauai (2500—4000 ft.); not common.



(16) *Proterhinus antiquus*, sp. nov.

Rufescens vel rufo-fuscus, angustus, elongatulus, elytris nonnunquam nigro-maculatis, setis appressis albidis vel argenteis, aliisque erectis sat conspicuis, sed brevioribus, vestitis. Antennae plerumque breviores. Oculi minuti. Pronotum setis appressis, aliisque erectis, vestitum, haud latum. Elytra angusta, elongata, lateribus saepe fere parallelis, plus minusve irregulariter argenteo- vel albido-squamosa, setisque erectis brevioribus conspicue vestita, parum conspicue inaequalia. Rostrum ♀ brevissimum, sulcis longitudinalibus sat fortibus. ♂ ♀. Long. 2—2.75 mm.

Allied to *P. blackburni* Sh., but distinguished by the white or silvery appressed setae which cover parts of the elytra, the narrower form, shorter erect setae, etc.

HAB. Kauai mountains (4000 ft.); a few examples were taken on several occasions.

(17) *Proterhinus setiger*, sp. nov.

Rufescens vel rufo-piceus, setis erectis sat crebre vestitus, statura majore. Antennae graciles, articulo secundo subelongato. Oculi prominuli. Pronotum antice abrupte angustatum, setis erectis vestitum, haud squamosum, grosse denseque punctatum, lateribus haud rotundatis. Elytra haud squamosa, setis erectis perconspicue vestita, inaequalia, lineis longitudinalibus elevatis setis appressis pallidis vestitis, grosse punctata, basi arcuatim sat fortiter emarginata, humeris acute productis, lateribus parum rotundatis. Rostrum ♀ evidenter longius quam latius, longitudinaliter fortiter rugosum, lateribus basim versus levissime convergentibus. ♂ ♀. Long. vix 4 mm.

A much larger species than *P. blackburni*, to which it is evidently allied. I have seen only one ♂ and one female, and the former has the prominent lateral angles of the prothorax, which are formed by its sudden constriction in front, much more strongly developed than those of the latter, and the puncturation more distinct. Each wing-case has three raised dorsal lines, one extending back from the humeral angles, another from the basal tubercles on either side of the scutellum, while between these on each side is a third elevation which does not however reach to the basal margin of the elytra. In the ♀ the basal abdominal segment beneath is less coarsely punctate than the very coarsely and closely punctured metasternum; the apical segments are impunctate or nearly so.

HAB. Kauai (4000 ft.); 1 ♂ and 1 ♀ taken.

(18) *Proterhinus solitarius*, sp. nov.

Piceus, setis erectis ex majore parte vestitus, haud squamosus, statura majore, haud robustus. Oculi minuti. Antennae graciles, articulo secundo elongato, subclavato. Pronotum antice abrupte angustatum et impressum, dense rugoso-punctatum. Elytra

lineis elevatulis longitudinalibus inaequalia, setis erectis vestita, basi leviter emarginata, humeris acutis. Femora postica parum fortiter clavata, tarsorum lobis anticorum minutis. Rostrum ♀ brevissimum, fere aequè latum ac longum, fortiter longitudinaliter rugosum. ♀. Long. 3.5 mm.

Female in size and superficial appearance very similar to *P. setiger*, but differing in the much shorter rostrum, less deeply emarginate base of the elytra, smaller lobes to the front tarsi, etc. A single ♂ example, although taken at a higher elevation than the ♀, is probably referable to this species, since it agrees generally with the individual above described, but is entirely of a reddish colour. The lobes of the front tarsi are very minute, as in the ♀.

HAB. Kauai, a single ♀ taken at an elevation of from two to three thousand feet on the mountains. The ♂ mentioned above was taken on the high plateau of the same island.

OBS. A single ♀ with the rostrum still slightly longer than that of *P. setiger*, the elytral puncturation less definite, and the basal abdominal segment beneath very closely and coarsely punctured all over, is very probably another species, while a ♀ from Molokai will not agree with any of these. It has the rostrum very short, but less so than that of *P. solitarius*.

(19) *Proterhinus squalidus*, sp. nov.

Atro-piceus vel sordide rufescens, antennis rufescentibus, setis brevibus erectis nonnullisque appressis vestitus, parum convexus. Antennae sat graciles, articulo secundo sat robusto, sed elongato, quam tertius vix brevior. Oculi minuti. Pronotum plus minusve impressum, sat latum, setis erectis brevibus, aliisque erectis, vestitum, confuse rugoso-punctatum. Elytra setis brevibus erectis, aliisque pallidis et depressis irregulariter (sive submaculatis), vestita, puncturatione parum distincta, humeris parum productis, fere rectis. Rostrum ♀ brevissimum, tarsorum lobis anticorum minutis. ♂ ♀. Long. 1.75—vix 3 mm.

Differs from *P. antiquus* in being of less narrow and elongate form, and generally in having the antennae longer and more slender. It appears to me to be really more closely allied to *P. archaeus* of Oahu, but that species has the elytra decidedly more elongate, and differs in various small points. The description given above has been made from examples from which the muddy substance, with which they are nearly always covered when captured, has been carefully removed.

HAB. Kauai mountains (2000—3000 ft.).

(20) *Proterhinus wikstroemiae*, sp. nov.

Subrobustus, nigricans vel rufo-niger, minus dense pallido-squamosus. Antennae elongatae, graciles, articulis omnibus (secundo plerumque excepto) sat elongatis, clava gracili, minus distincta. Oculi haud magni, sed fortius prominentes. Pronotum dense rugoso-punctatum, latera versus sat dense squamosum, parte reliqua nudiuscula, antice angustatum et impressum, lateribus subfortiter rotundatis. Elytra sparsim squamosa, punctata, fere aequaliter convexa, setisque albidis erectis brevibus parum conspicue vestita, angulis humeralibus fere rectis, minus distinctis. Femora sat fortiter incrassata. ♂ ♀. Long. 3—3.5 mm. (Plate IX. fig. 4, ♂.)

This species is not at all closely allied to any other found on Kauai, nor indeed is it very similar superficially to any of the other species. I have no doubt it is nearest to *P. dispar*, although it differs from that species in numerous small points. Both appear to be solely attached to the same species of poisonous shrub, and a minute examination of the structural characters leaves no doubt that the two are more nearly related than would appear to be the case on a superficial examination. Nearly all the more remarkable characters of *P. dispar* are less developed in *P. wikstroemiae*.

HAB. Kauai (4000 ft.), in various localities. Attached to *Wikstroemia foetida*.

(21) *Proterhinus serricornis*, sp. nov.

Species parva, angustula, rufo-testacea, capite obscuriore, elytris utrinque plus minus nigro-signatis. Antennae breves, robustae, articulis brevibus et latis, clava distincta nulla. Pronotum squamulis pallidis minus dense vestitum, antice impressum. Elytra angusta, pallide squamosa, setisque nonnullis brevissimis erectis et parum conspicuis vestita, humeris haud productis. ♂. Long. circa 2 mm. (Plate IX. fig. 6, ♂ antenna.)

This little species is quite distinct from any other (at least in the ♂ sex), by the form of the antennae, which are unusually stout and short. The intermediate joints are all of subrotundate form and so closely resemble the ninth and tenth that practically there is no club. The eyes and lobes of the front tarsi are both very small. In what I believe to be the ♀ of this species, the antennae are quite differently formed and by no means remarkable in structure, since they terminate in an evident three-jointed club. The intermediate joints, however, are rather less slender than in most species. The posterior femora are not very strongly clavate.

HAB. Kauai, Halemanu, May 1895; three or four examples taken.

(22) *Proterhinus laticornis*, sp. nov.

Minor, angustulus, rufescens, capite femoribusque, et nonnunquam etiam pronoto, obscurioribus, elytris circa medium utrinque nigro-maculatis. Antennae ♂ nigrae, basi rufa, ab articulo tertio vel quarto sensim usque ad apicem incrassatae, clavam quasi perelongatam formantes. Species pallide squamosa, faciem *P. serricornis* omnino habens, sed antennis longe aliter formatis, femoribus posterioribus valde incrassatis distinctissima. ♂. Long. 2—2.25 mm. (Plate IX. fig. 5, ♂.)

This minute but very remarkable species is clearly allied to *P. serricornis*, with which it agrees in colour, clothing, and shape. Probably on the average it is of rather larger size. The joints of the antennae from the fourth or fifth become gradually wider to the apex, the whole forming as it were a very gradual and elongate club. The lobes of the front tarsi are minute, and the hind femora very strongly incrassate. The female which no doubt belongs to this species is quite unlike the ♂ in its antennal characters, since the intermediate joints are comparatively slender, and there is a distinct and strongly developed 3-jointed terminal club. This sex is therefore very similar to *P. serricornis* ♀, from which it may be known by the more strongly incrassate femora.

HAB. Kauai, Halemanu (4000 ft.).

(23) *Proterhinus eurhopalus*, sp. nov.

Piceus, elytris plus minusve rufescentibus nigro-vel fusco-notatis, forma fere spp. 2 praecedentium, sed plerumque colore obscuriore. Antennae ♂ graciliores, basi rufa, clavae (distinctissime 3-articulatae) articulis latis. Femora postica minus fortiter incrassata. ♂. Long. vix 2—2.2 mm. (Plate IX. fig. 7, ♂ antenna.)

Closely allied to the two preceding species, the general form and appearance being the same, the colour perhaps more obscure. The ♂ has the antennae comparatively slender, indeed more nearly resembling the ♀ of the preceding two species, and the club, consisting of three very distinct joints, is unusually developed. The eyes and tarsal lobes are small, the posterior femora not very strongly incrassate. Two females taken in company with these males are no doubt of the same species, resembling them very closely in all respects, except for the usual sexual differences in the rostrum.

HAB. Kauai, Makaweli, at an elevation of 2000—3000 ft.

(24) *Proterhinus homoeochromus*, sp. nov.

*P. eurhopalo* forma et colore simillimus, sed paullo major, et antennis longioribus, clava paullo minus abrupta, capite inter oculos latiore distinguendus. ♂ ♀. Long. 2—2.6 mm.

Very closely allied to *P. eurhopalus*, but a rather larger species with decidedly longer antennae, and the club less marked, owing to its basal joint being less short and wide. The head is also decidedly wider between the eyes in the present species.

HAB. Kauai, above Waimea (4000 ft.).

(25) *Proterhinus cognatus*, sp. nov.

Elongatus, angustus, rufescens, capite obscurato, elytris utrinque nigro- vel fusconotatis. Antennae graciles elongatae, articulis omnibus sat elongatis, clava gracili, haud abrupta. Pronotum subelongatum, antice angustatum. Elytra angusta, pallide squamosa, setisque nonnullis erectis perinconspicue vestita, basi leviter emarginata. Species forma, colore, et caeteris, *P. homoeochromo* simillimus, sed paullo major, et antennis evidenter gracilioribus et magis elongatis, clava minus distincta, distinguenda. ♂ ♀. Long. 2.6 mm.

Very closely allied to *P. homoeochromus* but of larger average size, the antennae elongate and very slender, the club decidedly more slender and less definite.

The five species described above form a very remarkable series; and although all were obtained from only a very small area of the island of Kauai, excepting perhaps the two Halemanu species, no two were found in the same locality. It is probable however that *P. serricornis* and *P. laticornis* were not actually obtained together, since two very distinct districts were collected over at Halemanu, and it is more than likely that each of these regions had its peculiar species. It may also be observed that the two species taken in the mountains behind Waimea occurred at different altitudes.

HAB. Kauai, mountains above Waimea (3000 ft.).

(26) *Proterhinus angustiformis*, sp. nov.

Angustus, fortiter elongatus, plus minusve rufescens, pallide squamosus, elytris nigro-maculatis. Antennae graciles, articulis basalibus rufis, clava vix 3-articulata, articulis duobus apicalibus praecedenti multo majoribus. Oculi minores parum fortiter prominentes. Pronotum minus latum, pallide squamosum, lateribus minus fortiter

rotundatis. Elytra rufa, nigro-maculata, pallide squamosa, setisque brevissimis erectis vestita, perelongata, humeris vix productis, sed distinctis. Femora postica minus fortiter clavata. Abdominis segmentum primum ventrale ex maiore parte vix evidenter punctatum. ♂ ♀. Long. 2—2.2 mm.

A small and very narrow species remarkable for the great length of the elytra.

HAB. Kauai, Halemanu. Four or five examples taken in May 1895.

(27) *Proterhinus leptophyas*, sp. nov.

Forma elongata et angustissima, nigricans, plus minusve rufo-variegatus, antennis rufis. Oculi minuti. Antennae breves, clava vix plus quam 2-articulata. Pronotum inaequale, antice angustatum, medium longitudinaliter subsulcatum, impressionibus duabus sublateralibus distinctis aut obsoletis. Elytra perelongata, angustissima, nigra, plus minus rufo-variegata, maculis rufis tantum squamis vestitis, parte nigra nuda, dense punctata, humeris haud productis. Femora gracilia. ♂ ♀. Long. 2—2.4 mm. (Plate IX. fig. 8, ♀.)

This small species is very distinct, and remarkable for its very narrow form and extremely elongate elytra. The antennae are unusually short, and entirely of a clear red colour, as also are the tarsi, and sometimes also the tibiae. The elytra usually bear a number of pale spots, which alone are covered with squamosity, the dark parts being bare. In the darkest individuals the elytral markings are reduced to a single spot at the extreme base, and such examples have nearly the whole surface of the elytra without squamous clothing. The hind femora are not at all strongly clavate.

HAB. Kauai (4000 ft.). Probably a local species, since all the specimens obtained were taken on the same day (April 15th, 1895).

(28) *Proterhinus linearis* Blackburn.

*Proterhinus linearis* Blackburn, Tr. Dublin Soc. III. 1885, p. 169.

The unique example of this species in the British Museum is in poor condition and I cannot identify it with any of those taken by me with certainty.

HAB. Kauai (Rev. T. Blackburn).

(29) *Proterhinus maculifer*, sp. nov.

Angustulus, depressiusculus, piceus (nonnunquam nigricans vel rufescens), elytris maculis rotundatis squamiferis pallidioribus plus minusve variegatis. Oculi parvi. Rostrum ♂ haud brevissimum. Antennae graciles, breviores, clava haud abrupta.

Pronotum minus latum, antice impressum, minus dense squamoso-vestitum, lateribus parum fortiter rotundatis. Elytra angustula, maculatim squamosa, asperula et punctata (puncturatione et sculptura saepe exudatione lutosa celatis), setis erectis brevissimis nec conspicuis, angulis humeralibus plerumque fere rectis. Femora postica minus fortiter clavata, lobis tarsorum anticorum parvulis. ♂ ♀. Long. vix 2—3 mm. (Plate IX. fig. 9, ♂.)

Chiefly remarkable for its flattened, or even sub-depressed form, and generally for the narrow elytra, which bear a number of roundish squamose spots, these spots being paler in colour than the rest of the surface, whether this be red or blackish. The sculpture is generally obscure, the punctures at least being generally filled up with a muddy excretion, and not infrequently the insect has nearly the whole surface thickly covered and concealed. The antennae, which are rather short, are generally entirely of a clear red colour; the rostrum of the ♀ is also red or reddish, its surface smooth and shining, with the longitudinal grooves fine.

HAB. Kauai, common generally. Many examples taken exhibiting variation in colour, size and other respects.

#### B. Species insulae Oahu propriae.

##### (30) *Proterhinus kamptarthrus*, sp. nov.

Niger vel piceus, antennis tibiis tarsis elytrisque rufescentibus, his plerumque plus minusve nigro- vel fusco-maculatis. Antennarum articulo primo tertioque perelongatis, illo incrassato. Pronotum minus latum, 3-impressum. Elytra pallide squamosa, humeris productis. Antennarum ♂ articulus tertius subcurvatus. ♂ ♀. Long. circa 3 mm. (Plate IX. fig. 10, ♂.)

Black or piceous, with red elytra, which are usually sparsely spotted with black. Femora dark, tibiae, tarsi and antennae wholly or partly red. Eyes prominent, in the ♂ very remote from the thorax. Antennae long, extremely so in the ♂, the scape incrassate, and very elongate, second joint short, third extremely long, slightly but distinctly curved in the ♂, and perceptibly so in the ♀, club distinctly of three joints, the 9th being considerably wider at the apex than the 8th. Prothorax rather narrow, with three more or less evident impressions, rather scantily covered with pale squamosity. Elytra covered with grey appressed scales, and with sparse erect white setae posteriorly, the sides sub-parallel. The humeral angles are strongly produced, and the basal tubercles near the scutellum are present, but there is no trace of longitudinal ridges. Lobes of the tarsi by no means large.

HAB. Oahu, Waianae mountains (3000 ft.); three ♀ taken in April 1892, and two males February 1896.

(31) *Proterhinus leiorhynchus*, sp. nov.

Niger, vel piceus, antennis elytris rufescentibus, his nigro-maculatis, squamis pallidis vestitus. Antennae fortiter elongatae, conspicue pubescentes, articulo primo perlongo et incrassato, secundo sat elongato sed tertio brevior, 9° quam 10<sup>us</sup> vix minus lato. Pronotum distincte 3-impressum, lateribus aequaliter rotundatis. Elytra pallide squamosa, setisque erectis elongatisque sat conspicue vestita, juxta scutellum utrinque tuberculata, humeris acutis. ♀. Long. 3—3.75 mm.

This is a very distinct and somewhat large species, having the antennae unusually long. The basal joint is greatly incrassate and very long, the second is also elongate, although shorter than the third, the three apical joints form a very distinct club, the ninth at the apex being hardly less wide than the tenth, but very much more so than the long and slender joint preceding it. The rostrum is smooth and shining, the longitudinal impressed lines very fine. There is no transverse ridge between the vertex and front of the head. The eyes are prominent but not very large for the size of the insect. Thorax with the sides evenly rounded, densely punctured, and having three more or less distinct impressions. Elytra with pale squamosity, except over the black markings, and bearing elongate pale erect setae, which are quite conspicuous. The basal tubercles on either side of the scutellum are distinct, the humeral angles sharp and somewhat produced. Lobes of the tarsi somewhat small.

HAB. Oahu, Waianae mountains (3000 ft.). Four females taken in February 1896. One of these has the second joint of the antennae abnormally short. There is also slight variation in the width of the thorax, and the elytra vary greatly in length.

(32) *Proterhinus ruficornis*, sp. nov.

Totus rufescens, aut capite, pronoto, femoribusque obscuratis, elytris nigro-maculatis. Antennae rufae, sat elongatae, clava distinctissime 3-articulata, articulo 9°, quam 8<sup>us</sup>, multo latiore, et aequale ac art. 10. Oculi magni fortiter prominentes. Pronotum antice abrupte constrictum, et impressum, impressionibus posterioribus obsoletis. Elytra griseo-squamosa, humeris subproductis. Species haec *P. leiorhynchus* cognatissima, antennarum articulis 2 basalibus minus elongatis, oculis et tarsorum lobis paullo majoribus, pronoti impressionibus posterioribus obsoletis, distinguenda. ♂♀. Long. 3—3.5 mm.

Extremely closely allied to *P. leiorhynchus*, from which it may be distinguished by the characters given above. Also very close to *P. separandus*, of Maui and Molokai, but that species has the antennae less elongate, and differs slightly in other respects.

HAB. Oahu. A single pair were taken in cop. at an elevation of nearly 3000 ft., in the mountains near Honolulu.



(33) *Proterhinus deinops*, sp. nov.

Piceus, elytris rufescentibus, nigro-maculatis. Caput post oculos fortissime constrictum. Oculi fortissime prominentes, postice acuti. Antennarum articuli 3 apicales clavam distinctam formantes. Pronotum 3-impressum, sat elongatum. Elytra grosse et profunde punctata, basi utrinque juxta scutellum tuberculata, humeris acutis, fortiter productis. ♂ ♀. Long. circiter 3 mm. (Plate IX. fig. 11, ♀.)

One of the most remarkable species of the genus, having the head very strongly constricted behind the eyes, so that the front and vertex are separated by a strong ridge. The eyes themselves are excessively prominent, and are produced behind into a distinct point. The antennae are not long, the 9th joint is much wider than the 8th, so that the club is very definitely formed of three joints. The thorax is unusually long and narrow. The elytra have a deep coarse puncturation, and their humeral angles are very strongly produced, and acute. In fresh examples their red portions are covered with pale squamosity, which is absent on the black spots; the erect setae appear to be few, and not conspicuous.

HAB. Oahu, Waianae mountains, 3000 ft. Rare; 6 examples were taken in February 1896.

(34) *Proterhinus squamicollis*, sp. nov.

Haud latus, niger, piceus, vel rufescens, pallide squamosus. Antennae graciles, clava distincte 3-articulata. Oculi magni, prominentes, coniformes. Capitis vertex a fronte carinula transversa distincte separatus. Pronotum haud latum, antice fortiter angustatum, et depressum, squamis pallidis ubique dense vestitum, impressionibus duabus posterioribus sat distinctis, lateribus fortiter rotundatis. Elytra distincte punctata, subinaequalia, squamis pallidis maculatim, necnon setis elongatis pallidis conspicue vestita, basi scutellum juxta utrinque tuberculata, tuberculis albido-squamosis, humeris productis et acutis. ♂ ♀. Long. 2.25—3 mm.

A distinct species, and readily distinguished from the other Oahuan *Proterhini* by the following combination of characters. Eyes large, prominent, and of conical form; a distinct transverse ridge between the front and vertex of the head; prothorax densely squamose all over, much narrowed and deeply impressed in front, the sides very strongly rounded; elytra generally with more or less evident longitudinal ridges, with a tubercle on each side of the scutellar region at the extreme base, the shoulders produced, acute, and much deflexed; their squamous covering is more or less broken up to form a number of spots, and the erect setae are long, fine, and quite conspicuous.

HAB. Oahu. Widely distributed in the Koolau range, but rare. Ten or eleven examples taken at altitudes of 2000—3000 ft.

(35) *Proterhinus adelus*, sp. nov.

Elongatus, parum convexus, nigricans, vel subobscurus rufescens, elytris rufis, nigro-variegatis. Antennae modice elongatae, graciles, clava distincte 3-articulata, basim versus rufae. Vertex capitis a fronte haud divisus. Oculi vix magni, sed fortiter prominentes. Pronotum minus dense squamosum, antice angustatum, et profunde impressum. Elytra basim versus subangustata, maculatim pallide squamosa, parte basali rufa, postice nigro-maculata, setis erectis parce et parum conspicue vestita, dorso parum convexo, basi leviter arcuatim emarginata, humeris distinctis. Abdominis segmentum primum ventrale fortiter ubique punctatum, suturis ventralibus sat profundis. ♂♀. Long. circiter 3 mm.

Of this apparently distinct species only a single pair, ♂ and ♀, were taken. Apart from the usual sexual differences they are very similar, except that the ♂ being somewhat abraded, has lost nearly all the curved setae from the sides of the thorax (which appears less abruptly narrowed in front), as well as the erect ones from the elytra. Otherwise it differs only in having the thorax and legs redder in colour, and the eyes slightly, but quite evidently, larger.

HAB. Oahu. A pair were taken in the Koolau range at an elevation of 2500 ft. in the winter of 1892.

(36) *Proterhinus obscuricolor*, sp. nov.

Nigricans, maculatim squamoso-vestitus, antennis pedibusque obscuricoloribus, *P. vestito* forma et magnitudine simillimus. Antennae ♀ graciles, clava minus abrupte 3-articulata. Pronotum minus dense squamosum, rugoso-punctatum, 3-impressum, impressione anteriore magis profundo et majore, antice angustatum, haud abrupte fortiterque constrictum, lateribus sat rotundatis, setisque curvatis ciliatis. Elytra maculatim squamosa, setisque pallidis erectis gracilibus conspicue vestita, basi emarginata, angulis humeralibus distinctis. ♀. Long. 2.25—3 mm.

Allied to *P. vestitus*, but differing in colour, the shape of the prothorax, &c. The elytra are black, with a somewhat vague humeral or subhumeral spot of pale squamosity, and some other roundish spots behind these; at the base they are formed much as in typical *vestitus*. A single female only of this species was taken, but there are two males in Dr Sharp's collection, which no doubt belong to the same. They differ from the ♀ in their antennae being shorter, and the club more distinct (i.e. the 9th joint is more stout in proportion to the preceding), and they are considerably

smaller, but are themselves of different size. The smaller example is a very fresh one and not quite mature, it being of a generally more pallid colour, and the legs and antennae are entirely red. These examples are marked as *P. vestitus*, var. b and var. c, and bear the number 352.

HAB. Oahu. Mountains near Honolulu, 2000—3000 ft.; 1 ♀ taken in the winter of 1892; 'mountains Oahu' (Blackburn).

(37) *Proterhinus denudatus*, sp. nov.

Elongatus, rufescens, elytris plus minusve nigro-notatis, parce aureo-squamosus. Antennae nigrae, articulis basalibus rufis, clava vix distincte 3-articulata. Oculi minus fortiter prominentes. Pronotum aequaliter, nec dense, aureo-squamosum, crebre punctatum, evidenter 3-impressum, antice haud abrupte constrictum. Elytra parce aureo-squamosa, setisque albidis brevioribus vestita, ♀ fortissime elongata, fere aequaliter convexa, humeris acute productis. ♂ ♀. Vix 3 mm.

In the elongate form (especially of the ♀), in the colour and clothing this species is remarkably similar to *Proterhinus detritus* from Lanai. It lacks, however, the extremely abrupt constriction of the prothorax in front, the second joint of its antennae is less short, and they themselves are only red at the base. The rostrum of the ♀ *detritus*, however, is so different, being very coarsely sulcate, that it is doubtful whether the two are in reality at all closely allied. The ♂ of the two examples examined is larger and wider, and much less elongate, than the ♀, but I suspect that this is not usually the case, but rather an individual variation. A second male, taken in the other mountain range on Oahu, I refer at present to this species as a variety, but it is very likely a distinct species. It differs in being of a more obscure red colour, with the antennae entirely red, and is as narrow and elongate as the ♀, there are traces of whitish squamosity on the elytra, their erect white setae are longer, and they are faintly impressed at the base.

HAB. Oahu. One of each sex taken in the mountains near Honolulu (2000—3000 ft.); a variety of the ♂ in the Waianae mountains.

(38) *Proterhinus compactus*, sp. nov.

Nigricans, elytris plus minusve rufescentibus. Caput cum pronoto aureo-squamosum. Antennae mediocriter graciles et elongati. Pronotum obscure 3-impressum. Elytra albido-squamosa, setisque albidis erectis brevioribus sat conspicue vestita, fortiter denseque punctata, longitudinaliter subcarinata, basi scutellum juxta utrinque tuberculata, humeris productis, minus acutis, basi thoracis adaptatis. Rostrum ♀ fortiter

longitudinaliter rugosum, ad basim distinctissime angustatum. ♂♀. Long. 2.6—2.75 mm.

Species, ut opinor, *P. difficili* (sp. Kauaiensi) cognatissima, sed forma angustiore.

Very similar to some examples of *P. difficilis* of Kauai, but distinguished by the evidently narrower elytra, which in lateral view are less convex longitudinally. The humeral angles are a good deal produced, but are not sharp, and are closely applied to the base of the prothorax, the puncturation is strong and dense. This species also bears a strong resemblance to the following (*P. platygonias*), but the deep thoracic impressions, the extremely coarsely punctured elytra, and the strong constriction of the head behind the eyes, in the latter species, will easily distinguish it.

HAB. Oahu, Waianae mountains (3000 ft.); two examples (♂ and ♀) taken.

(39) *Proterhinus platygonias*, sp. nov.

Nigropiceus, pallide squamosus, elytris plus minusve rufescentibus et nigromaculatis. Caput post oculos fortiter constrictum. Pronotum profunde 3-impressum, minus dense squamosum, grossius rugoso punctatum. Elytra inaequalia, grosse punctata, utrinque juxta scutellum tuberculata, humeris fortiter, nec acute, productis. ♀. Long. 2.5—vix 3 mm. (Plate IX. fig. 12, ♀.)

Black, the elytra reddish with black markings posteriorly, antennae red at the base or nearly altogether black. Head constricted behind the eyes, so that a ridge is formed between the vertex and front. Antennae not stout, nor long, the basal of the three terminal joints not very different to the 8th, the two terminal ones much wider, and short. Thorax very uneven owing to the three extremely deep depressions, its puncturation dense and rugose. Elytra with pale squamosity, and some rather short white erect setae, the surface uneven, the ridges which extend back from the humeral angles being evident at the base, and sometimes distinct to nearly the apex. On either side near the scutellum is a rather strong tubercle, covered with white squamosity, and between these and the shoulders the elytra are deeply impressed, as is readily seen in a lateral view. The humeral angles are strongly produced, but not very sharp, and closely applied to the base of the thorax. The puncturation is extremely coarse. Lobes of the front tarsi unusually small.

HAB. Oahu, Waianae mountains (3000 ft.). Two female examples taken in February, 1896. In one the antennae and tarsal lobes are black or nearly so, in the other (excepting the apical joints of the former) both are red. The latter example has the longitudinal ridges of the elytra less distinct, and the eyes decidedly less prominent.

(40) *Proterhinus vestitus* Sharp.

*Proterhinus vestitus* Sharp, Tr. Ent. Soc. London, 1878, p. 16. Tr. Dublin Soc. III. 1885, Pl. V. fig. 37 and 38.

Typical examples of this species have a very distinctive appearance, owing to the extremely sudden constriction of the thorax in front. I have only seen one rather small example which quite resembles the types in structure, but specimens from the Waianae range have the thorax in some cases hardly less abruptly constricted, and must be referred to the same species, although they form a well-marked local variety (*P. vestitus*, var. *heterostictus*). These examples also have the setae of the elytra and legs generally less elongate, and the black or dark markings of the elytra are more lateral in position. The species is closely allied to *P. eulepis* but the elytra are in general less wide and short, the shoulders less produced, and the erect setae longer.

HAB. Oahu, mountains near Honolulu (Blackburn); Waianae mountains, both sides.

(41) *Proterhinus robustus* Blackb.

*Proterhinus robustus* Blackburn, Tr. Dublin Soc. III. 1885, p. 171.

Extremely close to *P. vestitus* but probably distinct. Like that species it is variable, but in its typical form it differs from typical examples of *P. vestitus*, in having the thorax but little constricted in front and less narrowed behind, the hind angles distinctly marked by a spot of pale squamosity. The elytra have shorter and less conspicuous erect setae, those on the legs being also much shorter. The basal joint of the antennae is unusually long, being fully as long as the two following joints together. Apart from the pale spots at the hind angles the thorax has very little squamosity, so that the puncturation is quite conspicuous, being very dense, and somewhat coarse. The curved setae at the sides are short and very feebly developed. I have not seen a ♂ of this species. Length 2—3 mm.

HAB. Oahu, Waianae mountains, found in the lowest forest. Only a few female examples were collected.

(42) *Proterhinus subplanatus*, sp. nov.

Nigricans, parum dense squamosus, *P. angulari* cognatissimus, antennis plerumque brevioribus, minus gracilibus, forma magis depressa (sive deplanata), distinguendus. ♂ ♀. Long. 2—2.5 mm.

A somewhat obscure species, evidently closely allied to *P. angularis*. From

typical individuals of that species it is readily distinguished by the much less conspicuous setae on the elytra, and the hardly visible curved setae at the sides of the prothorax. From the less typical examples which I have referred to *P. angularis*, it may be known by the shorter and less slender antennal joints, and its evidently flattened, or subdepressed form.

The shoulders of the elytra are formed as in *P. angularis*, and are likewise marked with pale squamosity, but as a rule less conspicuously, and the basal ventral segment of the abdomen is strongly punctate.

HAB. Oahu, Halemano (Koolau range) (2000 ft.), in January, 1893.

(43) *Proterhinus simplex* Sharp.

*Proterhinus simplex* Sharp, Tr. Ent. Soc. London, 1878, p. 17.

The examples from which this species was described, appear to me to be not only immature, but also particularly small and ill-developed specimens. Large individuals are twice the size of the specimens sent by Mr Blackburn, and altogether wider and more bulky, the colour pitchy or reddish pitchy, the elytra red, with dark markings laterally, about the middle, and extending sometimes to the suture. The squamosity is not continuous, there being an oblique spot near the shoulders of the elytra and others behind these. The setae are shorter, and less conspicuous, than those of fresh examples of *P. obscuricolor*, *vestitus* and others. The prothorax is much wider, and has the sides much more strongly rounded than in the type, and is often distinctly 3-impressed. The eyes, the tarsal lobes, and humeral angles of the elytra are often all much more developed, but all of them vary, even in the larger examples. Length 2—nearly 3 mm.

HAB. Oahu. Both mountain ranges, at elevations of 2000—3000 ft.

(44) *Proterhinus oxygonias*, sp. nov.

*P. scutato* forma facieque simillimus, colore plerumque minus obscuro, elytrorum angulis humeralibus fortius et acutius productis, distinguendus. ♂♀. Long. 2.25—2.75 mm.

This species appears to be very closely allied to *P. scutatus*, from which it differs generally by its less obscure (*i.e.* more red) colour, the less evenly rounded sides of the thorax, and the more strongly and acutely produced humeral angles of the elytra.

HAB. Oahu, mountains near Honolulu (2000 ft.). A single example taken in the Waianae range of the same island appears to be a variety of this species.

(45) *Proterhinus leptothrix*, sp. nov.

Haud latus, rufescens, elytris plus minus nigro- vel fusco-signatis. Oculi minores. Antennae mediocres, clava 2-articulata, articulo 9° vix quam 8<sup>us</sup> evidenter latiore. Pronotum parum squamosum, dense rugoso-punctatum, setisque erectis gracillimis versus latera sat conspicue vestitum, antice impressum, angulis posticis macula pallida squamosa signatis. Elytra plus minusve albido-squamosa, setis erectis gracillimis et elongatis conspicue vestita, humeris acutis, plus minusve productis. Pedes setis conspicue elongatis vestiti, tarsorum anticorum lobis parvis. ♀. Long. 2—2.5 mm. (Plate IX. fig. 13, ♀.)

A very distinct species, owing to the form of the antennae, and the extremely fine and more than usually elongate setae, which clothe the elytra and legs. The club of the antennae can hardly be considered as consisting of more than two joints, as the 9th in whatever aspect it is viewed is hardly different in form to those that precede it. A single example taken in the same locality as the ♀ above described is no doubt the ♂, as it differs only in being smaller and in the usual sexual characters, but it is a good deal abraded.

HAB. Oahu; Kaala (3000 ft.), Waianae range; 2 ♀ taken together in December, 1892, and a single ♂ in the same month but on another occasion.

(46) *Proterhinus seticollis*, sp. nov.

Praecedenti cognatissimus, sed colore obscuriore, setisque erectis elytrorum minus longis gracilibusque distinguendus. ♂ ♀. Long. 2—2.75 mm.

This species is very closely allied to *P. leptothrix*, and may possibly on the examination of a long series prove to be a form of that species. It is very easily distinguished, so far as the few examples taken are concerned, by the different clothing, the erect setae being much less elongate and slender. It is also generally of a darker colour, and superficially greatly resembles *P. scutatus*, from which it is abundantly distinct by the 2-jointed club of the antennae, the stronger longitudinal furrows of the rostrum in the ♀, the patch of white squamosity at the hind angles of the thorax, which bears conspicuous erect setae, &c.

HAB. Oahu, Waianae mountains (3000 ft.); a few examples taken on the opposite side of the range to the locality for *P. leptothrix*.

(47) *Proterhinus longulus* Sharp.

*Proterhinus longulus* Sharp, Tr. Ent. Soc. London, 1879, p. 97.

I have examined only the types, one ♂ and one ♀, of this species, which are in Dr Sharp's collection. It is very closely allied to *P. epitretus* of Lanai, and *P. ferrugineus* of Hawaii, under which species I have pointed out the characters whereby these allied forms may be distinguished.

HAB. Oahu mountains, in stems of fern (Blackburn).

(48) *Proterhinus paradoxus* Sharp.

*Proterhinus paradoxus* Sharp, Tr. Ent. Soc. London, 1879, p. 100. Tr. Dublin Soc. III. 1885, Pl. V. fig. 36.

I have never met with this species, which is evidently allied to the following (*P. oahuensis*).

HAB. Mountains near Honolulu (Blackburn).

(49) *Proterhinus oahuensis*, sp. nov.

Haud latus, nitidus, ferrugineus, setis erectis flavescentibus vestitus, haud squamosus. Antennae graciliores, articulis 2 basalibus sat robustis. Oculi parvi, a pronoto longe remoti. Pronotum subnitidum, antice fortiter impressum, impressionibus posterioribus minus distinctis. Elytra nitida, sat elongata, grosse subseriatim punctata, suturam versus utrinque oblique longitudinaliter carinata, carina quoque longitudinali ab angulis humeralibus extensa, setis erectis flavescentibus elongatis, aliisque brevioribus, conspicue vestita. Femora omnia gracilia, tibiis anticis gracillimis et elongatis, lobis tarsorum minutissimis. ♂. Long. 2.5 mm. (Plate X. fig. 4.)

This species is very distinct, and obviously allied to *P. paradoxus*, but has the elytra of different form, these not being rectangularly deflexed laterally, nor conspicuously flattened above. The shoulders are nearly rectangular, and from each a distinct carina extends backwards, and internal to these towards the suture other two of the interstices are distinctly raised and form obliquely longitudinal carinae. The basal abdominal segment beneath is very coarsely punctured and the segmental sutures are extremely deep.

HAB. Oahu, mountains near Honolulu; 1 ♂ taken in May, 1896.



(50) *Proterhinus kaalae*, sp. nov.

Piceo-niger, antennis tarsisque rufotestaceis, minutus, sat robustus. Antennae graciles, elongatae, articulo primo fortissime incrassato, clava distincte 2-articulata. Oculi parvi. Pronotum grosse punctatum, setis erectis pallidis vestitum, haud squamosum. Elytra brevia, lata, pronoto fere bis latiora, grossissime punctata, haud squamosa, setis per elongatis albidis supra sex-seriatim vestita. Femora omnia cum tibiis setis longis albidis vestita, tarsorum lobis anticorum sat magnis. ♂. Long. vix 2 mm. (Plate X. fig. 3.)

One of the smallest, but quite one of the most remarkable of all the known species. There is no squamous clothing, but the erect setae are whitish, and very long and conspicuous, and form three rows on each wing-case, those of the series next to the suture being shorter than the others. The setae in each row are distant and very regular, and of even length, not consisting of some short and some long ones intermixed, as in most of the conspicuously setae species. Similar setae clothe the legs and thorax, and the sculpture of the latter and of the elytra is very coarse. The lobes of the front tarsi are rather large for the size of the insect, the claw-joint short, not projecting very far beyond the lobes. The basal joint of the antennae is extremely wide, the intermediate joints slender, the club consisting of 2 joints only. The elytra are short and wide.

HAB. Oahu. A single ♂ was taken on Kaala in the Waianae mountains.

(51) *Proterhinus archaeus*, sp. nov.

Depressus, nigricans vel piceus, parum squamulosus, setis conspersis erectis sat conspicue vestitus. Antennae rufae, articulo secundo sat elongato sed, quam tertius, robustiore. Oculi prominuli, setigeri. Pronotum dense rugoso-punctatum, setis erectis elongatis vestitum. Elytra parum vel haud squamosa, setis erectis sparsim sed conspicue vestita, crebre confuseque punctata, dorso deplanato vel depresso, basi utrinque subtuberculato, angulis humeralibus distinctis, fere rectis. Femora minus fortiter clavata, tarsorum anticorum lobis parvis. Abdominis segmentum primum ventrale grosse et sat crebre punctatum. Rostrum ♀ breve, vix longius quam latius, fortiter longitudinaliter rugosum. ♂ ♀. Long. 2.2—3.2 mm.

Allied to *P. blackburni* but quite distinct by its depressed or flattened form, less numerous erect setae, &c.

HAB. Oahu. Koolau range behind Waialua. A single example (var. *diversus*), taken in the same range near Honolulu, has the elytra less flattened, the thorax strongly transverse, and the erect setae of the elytra decidedly shorter. It will probably prove to be a distinct species. The typical form lives beneath the bark of *Straussia*.

(52) *Proterhinus obscurus* Sharp.

*Proterhinus obscurus* Sharp, Tr. Ent. Soc. London, 1878, p. 18.

This species was described on a single example of the female, but subsequently in Trans. Dublin Soc. Vol. III, 1885, was referred in the systematic Catalogue (p. 250) to *P. simplex* as a variety. I believe it to be distinct from that species, but both varying greatly, it becomes impossible to form an adequate description that will apply to all the individuals of each. Certainly in what I consider to be well-developed examples of the two the species are readily distinguished.

In its well-developed and typical form the ♂ of *P. obscurus* is shorter and wider than the female, and generally rather darker in colour. The antennae are moderately long, but the intermediate joints are not very slender, and the first of the three club joints is not very different to the following. The basal joint is short and very stout. Eyes but little prominent. Thorax wide and very strongly rounded at the sides, with the squamosity forming dense lateral patches, but sparser on the dorsum. There is an evident anterior impression, but the curved erect setae at the sides are altogether absent, or very indistinct. The elytra vary in colour from nearly entirely black, to a dull red with dark markings, and are rather scantily squamose, and bear, especially posteriorly, some short, pale, erect, but inconspicuous setae. The humeral angles are not acute, nor very distinct, and are sometimes quite effaced. All the femora are strongly incrassate and clavate, and the lobes of the front tarsi are moderately large.

The female is generally more slender, the thorax less wide, the elytra longer, and their colour less dark, and the squamous covering more regular.

In the Waianae mountains there is found what appears to be a dwarf form of the above species, the smallest examples of which are very minute, and most of the structural characters are accordingly modified.

HAB. Oahu. Koolau range (1500—3000 ft.); small var. in the Waianae mountains at similar elevations.

(53) *Proterhinus oscillans* Sharp.

*Proterhinus oscillans* Sharp, Tr. Ent. Soc. London, 1878, p. 18.

As I understand it, this is not a very variable species, and I have examined numerous examples that agree well enough with the types. As a rule the species is constant in colour and may be recognised easily by this. Small examples have the tarsal lobes diminished in size, and in some the humeral angles of the elytra are less indistinct than in others, and the elytra do not always become distinctly narrowed towards the base. The rostrum of the ♀ is normally very decidedly narrowed from the apex to the base. Length from 1.5 to 2.75 mm.

HAB. Oahu. Both mountain ranges. Not rare from 1500—3000 ft.

(54) *Proterhinus pachynemis*, sp. nov.

Rufescens, elytris nigrosignatis. Antennae mediocres, articulo secundo, quam tertius, haud minus longo, sed multo crassiore, clava sat evidenter 3-articulata. Pronotum latera versus sat dense squamosum, lateribus minus fortiter rotundatis. Elytra pallide squamosa, setisque pallidis erectis conspersim vestita, humeris subobscuris, haud productis. Femora antica et postica miro modo incrassata, intermediis multo crassiora. ♂. Long. 2 mm. (Plate IX. fig. 14. ♂.)

This species, which somewhat resembles *P. oscillans* or *P. obscurus*, is quite distinct by the elongate second joint of the antennae, and the extraordinarily incrassated femora, the hind femur being about twice as wide as the intermediate, which itself is more robust than in most of the species. A second and much damaged ♂, which I refer to this species, is totally different in superficial aspect, being black, with only small parts of the thorax and elytra obscurely red, and the latter less nearly parallel-sided.

HAB. Oahu. Kaala (2500 ft.), Waianae range. Two ♂ examples taken, one on the windward and the other the opposite side of the range.

(55) *Proterhinus laticollis*, Blackb.

*Proterhinus laticollis* Blackburn, Tr. Dublin Soc. III. 1885, p. 170.

(Plate IX. fig. 15, and 15a. ♂.)

The male of this species is a very remarkable insect, not only on account of its extremely wide thorax, as indicated by Blackburn in his description, and by the name which he applied to it, but still more so by the structure of the terminal joint of the front tarsi, which is unlike that of any other of the genus. This joint is so extremely shortened that it only just extends as far as the apex of the lobes of the preceding one. The antennae are more than usually elongate and slender, and the front femora very strongly incrassate, as compared with the hinder ones. In some examples the elytra are quite evidently impressed across the base, but in others no trace of this is to be detected. The ♀ of *P. laticollis*, on the other hand, is comparatively commonplace, since neither thorax nor tarsi present the peculiar features exhibited in the ♂. It is only to be recognised by its general similarity in colour, clothing, and the elongate and slender antennae. As in the ♂, the base of the elytra is sometimes sub-impressed. Length 2—2.5 mm.

HAB. Waianae mountains, Oahu. About 17 examples taken.

(56) *Proterhinus vicinus*, sp. nov.

Species parva, angustula, rufescens, capite, necnon saepe pronoto plus minusve infuscatis, elytrorum marginibus lateralibus, et nonnunquam maculis quibusdam dorsalibus, nigricantibus. Antennarum ♂ articulus basalis robustus, sed minus brevis, hoc cum sequentibus rufo, articulis apicalibus nigris, clava distincte 3-articulata. Pronotum haud latum, antice impressum, aequaliter (vix dense) squamis vestitum. Elytra angusta, lateribus saepe fere parallelis, pallide, haud maculatim, squamosa, setisque brevibus albidis erectis parce inconspicueque vestita, angulis humeralibus haud productis. Oculi et tarsorum anticorum lobi parvi. ♂ ♀. Long. vix 2—2.25 mm.

The affinities of this insect are with five of the Kauai species, *P. serricornis* and the four following, rather than with any other of the Oahuan forms. With those species it agrees in general form, colour, and clothing, as also in the very short rostral portion of the head in the ♂, and, considering its minute size, in the rather strongly developed basal joint of the antennae. It cannot however be referred to any of those species, for the antennae, which are neither long nor yet particularly slender, and of which neither the 3-jointed club, nor the intermediate joints present any special features, will agree with none of them. The sexes apparently are almost similar, except for the usual sexual differences.

HAB. Oahu. Taken only in the Waianae mountains, and not numerously.

(57) *Proterhinus pusillus* Sharp.

*Proterhinus pusillus* Sharp, Tr. Ent. Soc. London, 1879, p. 97.

This is a very minute and obscure insect, and may not improbably prove to be a depauperated form of some other species. It belongs to the most difficult and obscure section of the genus, and has no striking characters of any sort. It appears to approach closely to some varieties of *P. deceptor*, and also to minute examples of *P. obscurus*.

HAB. Oahu mountains near Honolulu, 1500—2000 ft. (Blackburn.)

## C. Species insulae Maui propriae.

(58) *Proterhinus validus* Sharp.

*Proterhinus validus* Sharp, Tr. Ent. Soc. London, 1881, p. 531.

(Plate IX. fig. 16. ♂.)

The antennae in this species are decidedly more elongate and less thick in some examples than in others. The length varies from 4—6 mm.

HAB. Maui, Haleakala (4000—5000 ft.); many examples taken on *Acacia koa*.

(59) *Proterhinus comes*, sp. nov.

Major, piceus, vel obscure rufescens, subbrunneo-squamosus, pronoto elytrisq[ue] setis erectis crebre conspicueq[ue] vestitis. Oculi sat magni, fortiter prominentes. Antennae graciles, articulo secundo brevissimo, clava gracili, elongata, 3-articulata. Pronotum antice fortiter angustatum et transversim impressum, impressionibus posterioribus rotundatis et distinctis. Elytra dense punctata, longitudinaliter subcarinata, margine basali scutellum juxta utrinque tuberculato, humeris fortiter acute productis. Pedes omnes conspicue setosi, lobis tarsorum anticorum minoribus. ♂. Long. 3.5—4 mm.

Apparently closely allied to *P. validus*, but a considerably smaller insect and of less elongate and oblong form. The antennae are quite differently formed, the intermediate joints being slender and elongate. The eyes also, and the lobes of the front tarsi, are less developed, and the longitudinal ridges of the elytra generally more obscure.

HAB. Maui. Three examples of the ♂ taken on Haleakala (4500—5000 ft.); it is probably a variable species, as these examples do not altogether agree in small points.

(60) *Proterhinus lecontei* Sharp.

*Proterhinus lecontei* Sharp, Tr. Ent. Soc. London, 1879, p. 99; Tr. Dublin Soc. III. 1885, Pl. V. fig. 42 ♀, fig. 43 ♂.

Varies greatly in size, some examples being only about half the bulk of a normal specimen. Length (excluding rostrum) 3.2—nearly 5 mm.

HAB. Maui, Haleakala (5000 ft.); not rare, but only on one species of tree, of which I neglected to obtain a specimen for identification.

(61) *Proterhinus sharpi*, sp. nov.

Ferrugineus, elytris saepe plus minusve nigricantibus, ferrugineo-squamosus. Antennae rufescentes, sat graciles. Oculi fortiter prominentes. Pronotum minus latum, dense squamoso-vestitum, 3-impressum, antice angustatum. Elytra suboblonga, lateribus subparallelis, utrinque longitudinaliter carinata, carinis postice abrupte truncatis, humeris sat fortiter productis. ♂♀. 2.6—3.75 mm. (Plate IX. fig. 17. ♂.)

In the form of the elytra this species can only be compared with *P. lecontei*, the longitudinal ridges of the elytra being well-marked and abruptly vertical behind, so that in a posterior view each appears as a strongly elevated tubercle. In

general appearance it is very different to *lecontei*, but in reality the two are really related.

Colour ferruginous, as also the squamosity, the elytra sometimes partly or even entirely black. Eyes large, strongly prominent; antennae slender, with evidently 3-jointed club, generally entirely of a clear red colour. Prothorax subelongate, densely squamose, with three well-marked impressions, at the sides with some curved suberect setae. Elytra elongate, subparallel-sided, tuberculate at the base on either side of the scutellar region, depressed between these tubercles and the produced humeral angles, flattened or even somewhat depressed dorsally between the well-marked longitudinal ridges, which terminate abruptly behind. When the elytra are reddish in colour they have a ferruginous squamosity, but when their colour is black the squamosity disappears; erect, thin setae are also scattered over the surface, especially at the sides and posteriorly. Lobes of the front tarsi somewhat large.

HAB. Maui, Haleakala (5000 ft.), in the same localities as *P. lecontei*, but with very different habits, this species being found only on a species of fern, while *P. lecontei* frequents one of the forest trees.

(62) *Proterhinus tuberculiceps*, sp. nov.

Rufescens, elytris plus minusve nigro-maculatis, antennis, pedibusque omnibus rufis. Caput inter oculos fortiter bituberculatum. Oculi fortiter prominentes. Antennae graciles, elongatae, clava distincte 3-articulata, sat elongata. Pronotum perinaequale, fortissime 3-impressum, impressione anteriore transversa, antice abrupte constrictum. Elytra longitudinaliter subcarinata, setis erectis gracillimis, sat conspicuis, vestita, humeris fortiter productis. ♂♀. Long. 3.5 mm. (Plate IX. fig. 18. ♂.)

A very distinct species, entirely reddish in colour, except for some small, and more or less inconspicuous, dark spots on the elytra. The eyes are strongly prominent, and there is a strong tubercle close to the inner margin of each. The prothorax is very uneven, the anterior impression extending right across it, while the two posterior ones are deep, but smaller, and roundish. In front the constriction is strong and abrupt, and there and at the sides the suberect, curved setae are very evident. The lobes of the front tarsi are well developed. The elytra have their shoulders strongly produced, the suture a little raised, and a sufficiently evident longitudinal ridge running backwards from the humeral angles of each. The erect setae are long, fine, and conspicuous. All the femora are strongly clavate, a little more so in the ♂ than in the ♀. The rostrum of the ♀ is only moderately long, and is smooth and shining, with the longitudinal grooves fine.

HAB. Maui, Haleakala (4000 ft.); 2 ♂, 1 ♀ taken.

(63) *Proterhinus sternalis* Sharp.

*Proterhinus sternalis* Sharp, Tr. Ent. Soc. London, 1879, p. 98.

(Plate IX. figs. 19 and 19 a. ♂.)

This species is remarkable for the great developement of the eyes, and tarsal lobes, the concavity of the prosternum from the front to the base, and the unusual clothing of the intermediate tibiae, which bear long and soft hairs, instead of the usual short and stiff setae. The ridges of the elytra are quite well-marked, especially when these are observed in lateral view. Length from 2·2—2·3 mm.

HAB. Maui, Haleakala (4000—5000 ft.); not very common, only about 20 examples were taken.

(64) *Proterhinus sternalioides*, sp. nov.

Sat latus, nigricans vel rufo-niger, antennis, pedibus, elytrisque plus minusve rufescentibus, his nigro-notatis, praecedenti sp. cognatissimus. Oculi magni. Pronotum antice constrictum, fortiter 3-impressum, minus latum. Elytra subinaequalia, pallide squamosa, setisque erectis elongatis vestita, basi scutellum juxta utrinque tuberculata, humeris fortiter productis. ♂♀. Long. 2·2—3·75 mm.

This species is extremely like *P. sternalis*, which it resembles in colour, form, &c. The longitudinal ridges of the elytra are rather less pronounced, and the face of the ♂ (including the rostrum) is evidently more elongate. The rostrum of the ♀ is slightly longer, its surface slightly rugulose all over. The intermediate tibiae are clothed with shorter setae, and the lobes of the front tarsi of the ♂ are of rather different form, being rather more narrow and elongate, the whole joint having a less quadrate form. The hind coxae of the ♂ are distinctly more widely separated, and the prosternum is impressed only along its anterior margin, not longitudinally sulcate down the middle from front to base as in *P. sternalis*.

HAB. Maui, Haleakala (5000 ft.); several examples taken, probably in company with *P. sternalis*.

(65) *Proterhinus microtarsus*, sp. nov.

Atro-piceus, elytris rufescentibus, nigro-notatis, antennis pedibusque totis rufis. Antennae elongatae, graciles, articulo 1 elongato sed robusto, quam tertius longiore, caeteris elongatis, clava gracili, distinctissime 3-articulata. Oculi magni. Vertex a fronte capitis haud distinctus. Pronotum perinaequale, antice subito fortiterque constrictum. Elytra squamulosa, longitudinaliter subcarinulata (lateraliter compressa), setis

pallidis elongatis sat conspicue vestita, humeris fortiter productis. Tibiae anticae graciles, elongatae; femora omnia fortiter incrassata, lobis tarsorum anticorum minimis. ♂. Long. 3 mm. (Plate IX. fig. 20 and 20a. ♂.)

This remarkable species is very distinct from any other. The antennae are long and slender, concolorous with the legs, of a clear rufotestaceous colour. The basal joint is elongate but rather stout, all the rest are elongate and slender, as also is the distinctly 3-jointed club. Prothorax very abruptly constricted, and transversely impressed in front, the impression deeper about the middle. The two posterior sublateral impressions are also distinct, and behind these the middle part of the thorax is seen (especially in lateral view) to be somewhat strongly elevated, the elevation subsulcate. All the femora are strongly incrassate, the front tibiae unusually long and slender, the lobes of the front tarsi excessively small for the size of the insect. Elytra subparallel-sided for their basal half, with pale squamosity, and conspicuous, very fine, erect, pale setae. Seen from the side they are somewhat compressed laterally, to form the rather obscure longitudinal ridges. Their humeral angles are strongly produced.

A female taken in the same locality as the ♂ no doubt belongs to the same species, although at first sight of very different appearance. The antennae are formed like those of the ♂, the eyes are smaller but more prominent. Rostrum short, not nearly twice as long as wide, the surface entirely rugulose. The whole insect is blackish, except the reddish tibiae and tarsi and the greater part of the antennae, the club-joints being obscure in colour. The prothorax is less elevated posteriorly than that of the ♂, and the elevated portion is not evidently sulcate. The elytra are a good deal longer, entirely black, the sides nearly parallel except at the apex. Femora strongly clavate as in the ♂, the front tibiae also long, and the lobes of the tarsi small.

HAB. Maui, Haleakala (4000 ft.); rare, only one ♂ and one ♀ having been taken.

(66) *Proterhinus megalotarsus*, sp. nov.

Nigricans, elytris rufescentibus vel piceis, pedibus antennisque saepe plus minusve rufescentibus. Oculi sat magni, subconici, fortiter prominentes. Antennae mediocres, clava distincte 3-articulata. Pronotum pallide squamosum, profunde 3-impressum, vix latum (feminae elongatum), lateribus rotundatis. Femora ♂ fortiter incrassata, lobis tarsorum anticorum magnis. Elytra pallide squamosa, setisque gracilibus erectis sat conspicue vestita, fortius (nec inaequaliter) convexa, sutura subelevata, humeris fortiter acute productis. ♂ ♀. Long. 2·8—3·25 mm.

A rather distinct species, at least in the ♂, but apparently variable, the antennae being a good deal shorter, in some examples than in others. There is no distinct ridge between the vertex and front of the head in either sex. The eyes are large, very



prominent and subconical. In the ♂ the lobes of the front tarsi are largely developed and wide, but evidently less so in the female, in which sex the rostrum is smooth and shining, with two fine longitudinal grooves. The elytra have only faint, sometimes indeed no traces of longitudinal ridges, but the suture itself is quite evidently raised.

HAB. Maui, Haleakala; a few examples taken at and below an elevation of 4000 ft.

(67) *Proterhinus hemichlorus*, sp. nov.

Nigricans, pallide squamosus, antennis pedibus elytrorumque basi plus minusve rufescentibus, *P. humerali* cognatissimus. Antennae, oculi, tarsorumque anticorum lobi, mediocres, haudquaquam insignes. Pronotum minus dense squamosum, setis curvatis parum conspicuis, 3-impressum, impressione antica transversa, duabus posticis distinctissime rotundatis. Elytra plus minusve nigricantia, plaga basali conspicue pallido-squamosa parceque nec fortiter punctata, sutura subelevata, humeris productis. Femora postica haud fortiter incrassata. ♂ ♀. Long. 1.7—2.8 mm.

A small species with rather a distinctive appearance, owing to a patch of dense pale, often nearly white, squamosity, which covers the basal third or even half of the elytra, over which part the puncturation appears sparse and feeble. The erect setae are chiefly placed on the hinder part of the elytra, but they are sparse and not very conspicuous. The femora are only moderately robust. Closely allied to *P. humeralis* but distinguished by the less developed tarsal lobes, eyes, and antennae, the less incrassate femora, and other less important characters. As in that species the elytra are without evident longitudinal ridges, and there is none between the front and vertex of the head.

HAB. Maui, Haleakala (5000 ft.); a few examples of each sex taken.

(68) *Proterhinus humeralis* Sharp.

*Proterhinus humeralis* Sharp, Tr. Ent. Soc. London, 1879, p. 96.

A rather distinct species, at least in the ♂. Apparently allied to *P. sternalioides*, but a decidedly narrower and more elongate insect. The antennae of the ♂ are rather longer and at the same time stouter than in most of the species, and the lobes of the front tarsi are strongly developed, although not to the extent of those of *P. sternalis*. In both sexes, but especially so in the ♂, the femora are more strongly incrassate than is usual, but all the specific characters of the ♀ are much less pronounced than in the ♂. There is no ridge formed between the front and vertex of the head.

HAB. Maui, Haleakala (4000—5000 ft.); I have seen only the two type specimens, and two or three others taken by myself.

(69) *Proterhinus brevipennis*, sp. nov.

Rufescens vel rufo-piceus, antennis pedibusque totis, vel ex parte, rufis, pallide squamosus, forma brevior. Antennae graciles. Oculi prominentes. Pronotum sat dense aureo-squamosum, antice fortiter angustatum, aut nonnumquam abrupte constrictum, profunde 3-impressum, medio longitudinaliter subsulcato, antice et ad latera setis curvatis suberectis, sat conspicuis, vestitum. Elytra rufescentia, pallide squamosa, parte apicali nigra vel nigro-maculata, dorso plus minusve inaequali, irregulariter punctato, setis erectis brevibus longioribusque intermixtis sat conspicuis, humeris fortiter productis. Femora minus fortiter incrassata. ♂♂. Long. 2·5—3·2 mm.

A variable species, typical examples of which are easily distinguished. The basal two-thirds of the elytra are covered with pale squamosity (except generally on some black spots), and this pale portion is often flattened or subdepressed, between the more or less evident longitudinal ridges. In well-developed examples there are also traces of transverse ridges. The puncturation has a peculiarly irregular appearance. The antennae are quite slender, clear red except at the apex, but not very long. The eyes are of moderate size and prominent, and there is more or less trace of a dividing ridge between the vertex and front of the head. The rostrum of the ♀ is finely longitudinally rugulose and dull. The femora are not very strongly clavate. The coxae are all equally widely separated, and the basal segment of the abdomen beneath has a dull and densely and minutely granulate appearance.

HAB. Maui, Haleakala (5000 ft.); about two dozen examples taken.

(70) *Proterhinus epichrysus*, sp. nov.

Rufo-niger, elytris rufescentibus, plus minusve nigro-maculatis. Antennae graciles, sat elongatae. Oculi fortiter prominentes. Frons capitis a vertice carina distincta transversa separata. Pronotum squamis pallidis aureis densius vestitum, fortiter 3-impressum, setis suberectis curvatis ad latera conspicuis. Elytra nigro-maculata, pallide squamosa, setisque albidis elongatis conspicue vestita, fortiter punctata, fere aequaliter convexa, sutura elevatula, basi scutellum juxta utrinque tuberculata, humeris fortiter acute productis. ♂♀. Long. 2·7—4 mm.

A rather large species, but very variable in size, ill-developed examples being only about one-third or one-fourth the bulk of the larger ones. The head and thorax are densely clothed with a very pale golden squamosity, the eyes are strongly prominent and usually of conical shape, the antennae elongate and slender with well-marked 3-jointed club. Thoracic impressions deep and distinct. Elytra red with black markings, coarsely punctured, the longitudinal ridges little or not at all evident, tuberculate at the base on either side near the scutellum, the humeral angles strongly produced

and acute. Their clothing consists of pale squamosity, which is not very dense, and is absent from the dark markings, and numerous elongate white, erect setae, which are conspicuous. The femora are not very stout, the lobes of the tarsi are somewhat variable in size, but never very largely developed. The rostrum in the ♀ is short, generally slightly narrowed to the apex, and the head in both sexes has a very distinct transverse ridge (rarely interrupted) between the vertex and the front. All the coxae are widely, and about equally, distant, the basal ventral abdominal segment is minutely granular, rather than punctured.

HAB. Maui, Haleakala (5000 ft.); about 40 examples were taken.

(71) *Proterhinus haleakalae*, sp. nov.

Niger, pedibus antennisque rufescentibus. Caput post oculos constrictum, his fortiter prominentibus. Antennae graciliores. Rostrum ♀ fere opacum, crebre longitudinaliter rugulosum, lateribus parallelis. Pronotum elongatum, lateribus subaequaliter rotundatis, distincte 3-impressum, impressione antica lata, duabus posticis rotundatis. Elytra elongata, parce pallide squamosa, setisque erectis albidis parcius vestita, fortiter punctata, ad basim scutellum juxta utrinque tuberculata, fere aequaliter convexa, humeris peracute fortiter productis. Femora minus fortiter clavata, subgracilia, lobis tarsorum anticorum minoribus. ♀. Long. 3.5 mm.

Only a single ♀ of this species was collected, and it appears to be most nearly related to *P. epichrysus* of the Maui species, but more closely still to *P. lanaiensis* of Lanai. In colour it is entirely black, except for the dark reddish legs and the rather more brightly coloured basal joints of the antennae. The transverse ridge between the vertex and front of the head is very distinct, the eyes are strongly prominent. The basal of the three joints of the club of the antennae is not very much more developed than the preceding, so that the club is not very distinct. The anterior impression of the elongate thorax is large and vague, the two posterior ones small, round, and definite. The elytra are long, nearly parallel-sided for more than half their length, with traces of the two longitudinal ridges, at least in certain aspects. All the femora are somewhat slender, and the lobes of the front tarsi are decidedly small for the size of the insect.

HAB. Maui, Haleakala. A single ♀ was taken on April 1st, 1894, at an elevation of about 5000 ft.

(72) *Proterhinus arhopalus*, sp. nov.

Nigricans vel piceo-niger, tibiis tarsisque obscurius rufescentibus. Oculi magni, prominentes. Antennae incrassatae, articulo primo elongato, robuste clavato, secundo elongato, subtriangulari, tertio hoc paullo longiore, 4°, 5°, 6° et 7° haud longioribus quam

lterioribus, angulis apicalibus posterioribus productis, 9°, 10° et 11° his evidenter gracilioribus. Pronotum 3-impressum, lateribus subfortiter rotundatis. Elytra subsquamosa, setisque erectis pallidis vestita, longitudinaliter subcarinulata, sutura subelevata, basi scutellum juxta utrinque tuberculata, humeris acute fortiter productis. Femora antica fortiter incrassata, lobis tarsorum maximis. ♂. Long. vix 4 mm. (Plate IX. fig. 21. ♂.)

This very remarkable species cannot be confused with any other, on account of the structure of the antennae, the middle joints of which are produced at their hinder apical angles, and are actually wider than the terminal ones, which usually form the club. The front and vertex of the head are not divided by any evident ridge, the eyes are strongly prominent, and the tarsal lobes of the front feet very large. The elytra when closely examined are seen to have each a fine ridge about midway between the suture and lateral margin. These ridges are a good deal more evident in one of the examples than in the other, and the development of the antennae also is decidedly greater in one of the two specimens.

HAB. Maui, Haleakala. Two male examples taken at an elevation of 5000 ft. in October, 1896.

(73) *Proterhinus epitrachys*, sp. nov.

Niger, statura majore, antennis pedibusque nigricantibus. Antennarum articulus primus brevis et robustus, secundus vix longior quam lator, caeteris elongatis, clava elongata distinctissime 3-articulata. Oculi permagni, fortiter prominentes. Pronotum squamosum, lateribus setis conspicuis erectis curvatis vestitis, fortissime 3-impressum, medium longitudinaliter subsulcatum. Elytra variegato-squamosa, grossissime rugoso-punctata, basi scutellum juxta utrinque tuberculata, setis gracilibus erectis conspicue vestita, sutura subdepressa, humeris fortiter productis. Femora antica sat incrassata, lobis tarsorum parvis. ♂. Long. 4 mm.

A large species, with very large eyes, antennae thick at the base, but becoming slender before the club-joints, and unusually small lobes to the second joint of the front tarsi. Thorax deeply impressed in the middle in front, and this impression connected by a longitudinal groove with a postero-median impression, the two sublateral impressions very deep and distinct, and rather large, the hind angles marked by a distinct spot of white squamosity. Elytra uneven, submaculately squamose, impressed between the basal tubercle and the strongly produced humeral angle on either side, the puncturation extremely coarse and rugose, the sutural portion subdepressed. The fine erect setae of the elytra and the curved ones on the prothorax unusually conspicuous. Tibiae with the setae short and somewhat dense.

HAB. Maui. A single ♂ taken on Haleakala in April, 1894, at an elevation of less than 4000 ft.

(74) *Proterhinus separandus*, sp. nov.

Rufescens, capite, thorace (plus minusve), antennis, femoribusque obscurioribus. Capitis vertex a fronte haud divisus. Oculi magni, fortiter prominentes. Antennae subgraciles, articulo primo crasso et brevi, clava distincte 3-articulata, haud notabili. Pronotum pallide squamosum, antice abrupte constrictum et transversim impressum, impressionibus posterioribus minus distinctis, dense rugoso-punctatum. Elytra griseo-squamosa, sparsim nigro-maculata, obscurius longitudinaliter carinata, basi extrema bituberculata, humeris productis. Femora sat fortiter incrassata, lobis tarsorum anticorum sat magnis. ♂. Long. 3.2 mm.

This species is quite distinct from any other species known on Maui, but is very closely allied to the Oahuan *P. ruficornis*. The single ♂ example described above is probably somewhat abraded, but there are evident erect pale setae still remaining on the elytra. There is no trace of a ridge between the front and vertex of the head, and the eyes are very large and strongly prominent. The antennae are not very slender, their basal joint is very short and stout, the second slightly longer than wide, the third about twice as long as this, the club is distinctly formed by three joints, but is not unusually elongate or in any way remarkable. This will easily distinguish the species from the Oahuan *P. ruficornis*, which has the club very strongly developed, its basal joint being more than usually elongate, very narrow at the base and much widened at the apex. Basal segment of the abdomen beneath rather strongly punctured, evenly at the sides, the puncturation becoming obsolete about the middle. Coxae rather less widely separated than in most of the species.

HAB. Maui. A single example taken in the Iao valley in March, 1894; and one from the mountains of Molokai in 1893 may perhaps belong to the same species.

(75) *Proterhinus maculatus*, sp. nov.

Rufescens, femoribus nigricantibus, elytris nigro-maculatis. Antennae graciles, rufae, clava vix plus quam 2-articulata. Oculi minores. Pronotum squamosum, medium sat latum, antice fortiter abrupte constrictum, fortiter 3-impressum, lateribus setis curvatis conspicue marginatis. Elytra maculatim squamosa, setisque erectis pallidis parcius vestita, linea obliqua pallide squamosa posthumerali maculisque rotundis compluribus postice ornata, basi emarginata, humeris distinctis, vel productis. Femora omnia fortiter incrassata. Abdominis segmentum primum ventrale fortiter sed minus dense punctatum. ♂♀. Long. 2.6—3 mm.

I have seen only two examples of this species, and the ♀ is so different to the ♂ in form, owing to the extreme elongation of its elytra, as at first sight to appear

to be a quite distinct species. No doubt this will prove to be a variable character, and probably common to either sex, as in many other species of the genus. The species is not closely allied to any other of those taken on Maui, but rather resembles *P. vestitus* of Oahu and its allies on Hawaii. It is remarkable for its red colour, entirely red antennae, the club of which is hardly more than 2-jointed, since (especially in the ♀) the ninth joint is but little different to the preceding, and the strongly clavate black femora in either sex. The elytra have a distinct oblique post-humeral elongate spot of pale squamosity, and several small roundish ones behind these, they are subcompressed at the sides but can hardly be said to bear longitudinal ridges. Their puncturation is close and coarse, and their form in the ♀ is very long and narrow.

HAB. Maui, Iao valley, March 1894.

(76) *Proterhinus osculans*, sp. nov.

Parum latus, piceus, rufo-piceus vel rufescens, pedibus plerumque rufis, antennis, articulo basali saepe excepto, nigris. Oculi minimi sed prominentes. Antennae graciles, clava vix plus quam 2-articulata, articulo 8° et 9° inter se simillimis (hujus apice paullo latiore). Pronotum parce squamosum, antice transversim impressum, depressionibus posticis vel absentibus vel fere obsoletis. Elytra parum squamosa, post media saepe squamositate pallida binotata, setis erectis brevioribus vestita, densissime grosse rugoso-punctata, humeris acutis et productis. Femora omnia conspicue gracilia. ♂♀. Long. 2—2.5 mm. (Plate X. fig. 6.)

This is very unlike any of the other Maui species, and it does not indeed appear to be very closely allied to any other species of the genus. It is chiefly remarkable for the unusually slender femora, the hardly more than two-jointed antennal club (the tenth joint being much wider than the ninth, and this not very different to the preceding), and the somewhat long rostrum of the ♀, which is narrowed towards the base, the surface being entirely longitudinally rugose. The eyes are quite small, but prominent, the squamous covering of the insect is sparse, revealing the dense puncturation, the surface itself being sometimes even shining, and set with shortish erect setae. The elytra are without longitudinal ridges, their humeral angles acute and somewhat produced. Usually the entire insect is covered when captured with an exudation, which conceals all the structure, and is difficult to remove.

HAB. Maui, Haleakala (5000 ft.). About 20 examples taken.

(77) *Proterhinus leptorhynchus*, sp. nov.

Parum latus, rufescens, pronoto cum capite obscuriore, irregulariter squamosus. Oculi parvi, prominuli. Antennae basi excepta nigrae, graciles, clava vix plus quam

2-articulata. Pronotum latum, antice abrupte constrictum, densissime punctatum, impressionibus posterioribus absentibus, linea longitudinali squamositatis densae utrinque notatum, caetera parte parce squamosa, setis curvatis sat distinctis lateraliter vestitum. Femora parum fortiter clavata. Elytra irregulariter albido-squamosa, haud inaequalia, setis perpaucis erectis albidis inconspicue vestita, basim versus sat fortiter angustata, humeris acutis. Rostrum ♀ gracile, fortius elongatum, basim versus evidenter angustatum. ♀. Long. 2.5 mm.

This species is perhaps the most closely allied to *P. osculans*, having the rostrum of the ♀ of very similar form, elongate and widening towards the apex, and also very similar antennae. The general aspect of the two is very different, the abundant short erect setae, which form the chief portion of the clothing in *P. osculans*, being almost absent in the present species, and there are numerous other distinctions. The basal abdominal segment beneath closely and strongly punctured at the sides.

HAB. Maui, Iao valley. A single ♀ example taken.

(78) *Proterhinus mirabilis*, sp. nov.

Nigricans, tibiis, lobisque tarsorum, rufescentibus. Caput post oculos subconstrictum, oculis fortiter prominentibus. Antennae elongatae, vix graciles, articulo primo fortiter clavato et elongato, secundo robusto, longiore quam latiore, tertio quartoque elongatis, lateribus fere parallelis, clavae 3-articulatae articulo basali longiore et evidenter latiore quam articulus octavus. Pronotum profunde 3-impressum, antice fortiter angustatum, pallide (latera versus densissime) squamosum. Femora antice fortissime incrassata, lobis tarsorum latis et permagnis. Elytra maculatim squamosa, setisque erectis albidis parcius vestita, rugoso-punctata, subaequaliter convexa, basi scutellum juxta utrinque tuberculata, humeris productis. ♂. Long. vix 4 mm. (Plate IX. fig. 22.)

A somewhat large species, with the lobes of the front tarsi very strongly developed. The antennae are also remarkable, the basal joints being elongate but stouter than usual, the first long and strongly clavate, the next two or three nearly parallel sided, whereas the two or three preceding the club are short and of triangular shape. The three terminal joints form a distinct club, the 9th joint being considerably wider at the apex than the preceding. The head is constricted behind the eyes, an obscure ridge being formed between the front and the vertex. The thorax is wide across the middle, but very strongly and abruptly narrowed in front, the two posterior impressions are very deep, roundish, and small, the front one wide and vague, but deepened at the middle. The pale squamosity towards the sides is very dense. The elytra have no really definite longitudinal ridges, but are nearly evenly convex, tuberculate on either side

of the scutellar region at the extreme base, the humeral angles being produced, but hardly sharp. The front femora are extremely strongly incrassata, and the white erect setae on all the tibiae are dense and conspicuous.

HAB. Maui. A single ♂ of this fine insect was taken on Haleakala at an elevation of 5000 ft. in May 1896.

(79) *Proterhinus calliphyas*, sp. nov.

Nigrescens, tibiis, tarsisque, necnon saepe parte elytrorum et fronte, et rarius antennis, rufescentibus. Oculi parvi sed prominuli. Antennae graciles, articulis duobus basalibus sat crassis, clava 3-articulata. Pronotum perinaequale, a latere visum postice elevatum, medium longitudinaliter plus minusve distincte sulcatum, latera versus densissime pallide squamosum, lateribus fortissime rotundatis. Elytra maculatim squamosa, setisque erectis albis parce vestita, paullo post basim vage, sed evidenter, depressiusculum, humeris productis. Femora omnia sat fortiter incrassata. Abdominis segmentum primum ventrale dense minute granulato-asperulum, vix punctatum. ♂ ♀. 2.2—3 mm.

Although by no means a large insect this species is rather robust in form, especially in the ♂ sex. It is very distinct from most of the other species found on Maui which have the humeral angles produced, by the form of the prothorax, which, seen from the side, has the posterior half much elevated above the anterior, by the slender antennae with the two basal joints stout, and by the rather obscure depression of the elytra a little behind the basal margin. When in fine condition the elytra are prettily maculate, and the prothorax towards the sides is very densely squamose, the middle portion much less so. The dorsal and lateral portions of the thorax are very clearly marked off, the two forming a sharp edge where they meet, and this edge is set with curved setae.

HAB. Maui, Haleakala (4000—5000 ft.) ; generally attached to *Alyxia*. Allied to the larger *P. mirabilis* but very distinct.

(80) *Proterhinus persimilis*, sp. nov.

Major, fusco-niger, elytris pedibusque fusco-squamosis, *P. dispari* cognatissimus. Antennae elongatae et gracillimae, articulo secundo brevissimo, tertio fortiter elongato et gracillimo, clava 3-articulata, perelongata. Oculi fortissime prominentes. Pronotum antice angustatum et impressum, impressionibus duabus posterioribus sat distinctis, rotundatis. Elytra squamosa, setisque albidis erectis parce vestita, basi scutellum juxta utrinque tuberculata, dorso sutura excepta longitudinaliter impresso, humeris leviter productis. Femora (praesertim ♂) insignissime incrassata, lobis tarsorum anticorum latis. ♂ ♀. Long. 3.5—5 mm. (Plate X. fig. 7.)



Closely allied to *P. dispar*, Sharp, of which species it might be regarded as a highly-developed local race. The ♂ is remarkable for the development of the rostrum, which is less short than usual, and the extreme thickness of the femora. The eyes are large and very prominent, the antennae long and very slender, the lobes of the front tarsi strongly developed, being unusually wide, and the joint strongly transverse. The tibiae have a clothing of somewhat fine hairs. These are also mainly the characters of *P. dispar*, but that species may be distinguished by the less elongate and slender third joint of the antennae, and indeed generally by the following joints also being shorter, and it never attains the size of the larger examples of *P. persimilis*.

HAB. Maui, Iao valley; attached to *Wikstroemia*.

(81) *Proterhinus nivicola*, sp. nov.

Totus niger, angustus, parce squamosus. Antennae nigrae, graciles, breviores, clava vix 3-articulata. Oculi minores, minus prominentes. Pronotum subelongatum, minus distincte 3-impressum, parum squamosum, sed ad angulos posteriores macula albido-squamosa signatum. Elytra angusta, fortiter punctata, parcius obscure submaculatim squamosa, setis erectis brevissimis et perinconspicuis, basi utrinque scutellum juxta distincte tuberculata, angulis humeralibus fere rectis. Femora omnia minus fortiter clavata, lobis tarsorum anticorum minutis. ♀. Long. vix 3 mm.

Only a single example of the ♀ of this species having been taken nothing is known as to its variability. It is chiefly distinguished by its general black colour and narrow elongate form, but possesses no very remarkable characters. The ninth joint of the antennae is but little different to the preceding, so that the club is apparently 2-jointed. To the characters given above it may be added that the rostrum is rather short, shining, and with the longitudinal grooves somewhat strong, and that the basal ventral segment of the hind-body is strongly and closely punctate over its whole surface. The species is of interest as being the only one found far above the limit of the true forest.

HAB. Maui, Haleakala (9000 ft.); taken not many weeks after the disappearance of a heavy fall of snow.

(82) *Proterhinus punctipennis* Sharp.

*Proterhinus punctipennis* Sharp, Tr. Ent. Soc. London, 1881, p. 530.

The examples which served for the original description of this species were large and well-developed specimens. It is, however, very variable, the development of the antennae being much less strong in some examples than in others. The puncturation of the elytra, which is in reality very coarse and close, appears much less striking in individuals in which the squamous covering is more abundant, and frequently the insect

is entirely or to a large extent covered with an exudation, which altogether conceals or very much changes the appearance of the sculpture. Generally the insect is red, with dark lateral markings on the elytra, but some examples are nearly entirely blackish or piceous, with black antennae. Small individuals with slender antennae certainly closely approach the Oahuan *P. oscillans*, but I cannot consider the two species identical. Length 2—3 mm.

HAB. Maui, Haleakala (4000—5000 ft.); upwards of seventy examples of this species have been examined.

(83) *Proterhinus epimelas*, sp. nov.

Nigricans, tibiis tarsisque et rarius femoribus rufescentibus, maculatim pallide squamosus. Oculi parvi. Antennae graciles, articulo secundo elongato, haud minus longo, vel etiam (praesertim in ♀) nonnunquam longiore quam tertius. Pronotum antice depressum, lateribus fortiter rotundatis, setisque curvatis marginatis, utrinque plaga sublaterali densissime albido-squamosa. Elytra maculatim squamosa, parcissime albido-setulosa, punctata, humeris parum distinctis. ♂ ♀. Long. vix 2—2.5 mm.

A small species, remarkable for its dark colour, the tibiae and tarsi alone being as a rule of a red or pitchy colour, and for the elongation of the second joint of the antennae, which is subequal to the third in length, or not infrequently decidedly the longer of the two. The prothorax is very densely squamose towards the sides, less so towards the middle. The elytra have no longitudinal ridges, but are more or less perceptibly, though vaguely, impressed transversely a little behind the base, and therefore have a slight appearance of elevation at the extreme base in the region of the scutellum. The humeral angles are obscure.

HAB. Maui, Haleakala (5000 ft.); an extensive series taken. This insect varies a good deal in size, but is never a large and often a minute species.

(84) *Proterhinus ruficollis*, sp. nov.

Rufescens, elytris nonnunquam plus minusve nigro-marginatis, supra rarius nigro-infusatis, parum dense squamosus. Antennae graciles, sat elongatae, ruficolores, articulis apicalibus nonnunquam nigricantibus. Pronotum plerumque (♂ saltem) sat latum, medium parce, latera versus densius, aureo-squamosum, vix evidenter punctatum, antice transversim impressum. Elytra irregulariter nec dense squamosa, squamis saepe maculas minus distinctas rotundatas formantibus, dense et sat distincte punctata, setis erectis evidenter vestita, angulis humeralibus haud acutis. Femora postica minus fortiter clavata, lobis tarsorum anticorum parvis. ♂ ♀. Long. 1.8—2.2 mm.

One of the smallest species of the genus generally remarkable for being entirely, or for the most part, of a rufescent colour. The series of over a score of individuals exhibit not a little variation, and the tendency in some of them to become very narrow and elongate in form is remarkable, although a similar tendency is observed in several other species. Certain individuals approach very closely to some varieties of *P. deceptor*, but I cannot consider the two species identical.

HAB. Maui, Iao valley. A series of examples taken in March 1894. All were obtained at the same time and place. A single example taken on Molokai perhaps belongs to this species.

D. Species insulae Lanai propriae.

(85) *Proterhinus insignis* Sharp.

*Proterhinus insignis* Sharp, Tr. Dublin Soc. III. 1885, p. 173. Pl. V. fig. 44 and 45.

This species is distinct at a glance by its large size (although it is of rather narrow form), and the very strongly elongate slender antennae of the ♂, with their exceeding long but stout basal joint. In the ♀ this joint also is extremely elongated, but less so than that of the ♂. Length 3.5—4.5 mm.

HAB. Lanai, mountains (2000—3000 ft.); rare, only about a dozen examples were taken.

(86) *Proterhinus longicornis* Sharp.

*Proterhinus longicornis* Sharp, Tr. Dublin Soc. III. 1885, p. 173.

♂ readily distinguished by the unusually long antennae, and especially of the 8th joint, which is longer than the following or basal joint of the club. The antennae of the ♀ are much shorter, but the unusual length of the 8th joint is noticeable also in this sex. The species appears to be most closely allied to *P. kamptarthrus* of Oahu, but the two are very distinct. Length 2.5—3.75 mm.

HAB. Lanai, mountains; rare, less than a score of specimens taken.

(87) *Proterhinus lanaiensis*, sp. nov.

Statura majore, suboblongus, rufo-niger, elytris plus minusve variegatis. Antennae gracillimae, rufae, apicibus nonnunquam nigris, clava distincte 3-articulata. Oculi magni, coniformes, fortiter prominentes. Caput post oculos fortiter constrictum. Pronotum dense aureo-squamosum, distincte 3-impressum, setis curvatis conspicuis. Elytra

saepe nitida, grosse punctata, plus minus irregulariter vel maculatim squamosa, setis erectis gracillimis perconspicuis crebre vestita, basi scutellum juxta utrinque tuberculata, humeris fortiter acute productis, lateribus saepe fere parallelis. ♂ ♀. Long. 3—4 mm.

When in fresh condition this species is readily distinguished by the distribution of its squamous covering, and the very conspicuous and extremely fine erect setae, with which the elytra are clothed, combined with the characters afforded by its shape, the elytra being generally of more than usually parallel form, the distinct ridge formed between the vertex and front of the head, the conical prominent eyes, the coarse puncturation, and sometimes the shining surface of the elytra. There are on these, in some examples, traces of longitudinal ridges, but they are generally indistinct. Most closely allied, I think, to *P. haleakalae*, but certainly distinct. The rostrum in the ♀ of that species is quite dull, while in *P. lanaiensis* it is, at least to a considerable extent, shining.

HAB. Lanai, 2000—3000 ft. Not common.

(88) *Proterhinus ineptus* Sharp.

*Proterhinus ineptus* Sharp, Tr. Dublin Soc. III. 1885, p. 171.

*Proterhinus integer* Sharp, l. c. p. 172, var.

An extraordinarily variable species, of which *P. integer* Sharp is no doubt a narrow and highly-developed variety. The prothorax is very variable in length and roundness, and the size of eyes, tarsal lobes, length of the antennae are all variable characters. Many of the varieties of this species occur quite constantly, and it is quite probable that some of these are in the process of becoming distinct species, but between such forms as *P. ineptus* and *P. integer* intermediate varieties certainly occur. The larger individuals attain a length of about 4 mm., the smallest I have seen is less than 2 mm. in length, but the latter is quite exceptional.

HAB. Lanai, throughout the forest, from 2000—3000 ft. Many examples (from one to two hundred) examined.

(89) *Proterhinus detritus* Sharp.

*Proterhinus detritus* Sharp, Tr. Dublin Soc. III. 1885, p. 172.

(Plate X. fig. 1.)

Of this species I have seen very few examples, the type (♂) in Dr Sharp's collection, and four or five examples taken by myself. The former is in very abraded condition. The examples in the British Museum, which are placed under this name, as

determined by Mr Blackburn, are of a quite different species, and not allied to the true *P. detritus*<sup>1</sup>. The species is remarkable for its red or pitchy red colour, very elongate elytra, the abrupt narrowing of the prothorax in front, whereby a more or less distinct angle is formed on each side, the very short second joint to the antennae, and the deep *sulci* of the rostrum of the ♀. The squamosity has not a maculate arrangement, and is very scanty on the elytra, less so on the thorax, and dense on the face, and is of a golden colour in fresh examples, in which the erect flavescent setae on the elytra are quite conspicuous.

HAB. Lanai, 2000 ft. and upwards; a very scarce species.

(90) *Proterhinus epitretus*, sp. nov.

Elongatus, ferrugineus, setis erectis sat conspicue vestitus. Antennae ferrugineae, articulo secundo minus brevi, plus minusve elongato. Pronotum minus latum, saepe subelongatum, setis appressis, aliisque curvatis et suberectis vestitum, 3-impressum. Elytra elongata, grossissime punctata, setis elongatis, erectis, et gracillimis vestita, dorso parum vel haud convexo, angulis humeralibus productis et acutis. ♂ ♀. Long. 2.75—vix 4 mm. (Plate X. fig. 2.)

On account of the character of its clothing, form, and colour, this species could only be confused with *P. detritus* Shp. of those species found in Lanai, but it is distinct from that species by the form of the prothorax, less short second antennal joint, and finer and longer erect setae of the elytra, as well as by the smoother and less strongly grooved rostrum of the ♀, &c. *P. epitretus* on Lanai represents the *P. longulus* of Oahu, from which it differs in the more extremely coarse puncturation of the elytra, and the longer and finer erect setae, and the former character will also readily separate it from *P. ferrugineus* of Hawaii. The species varies greatly in size, and considerably in the length of the antennae. Minute examples are only one-half or one-third the size of the well-developed individuals.

HAB. Lanai, mountains (2000—3000 ft.); attached to the stems of the fronds of the tree-ferns.

(91) *Proterhinus breviformis*, sp. nov.

Sat latus, parum convexus, niger, tibiis tarsisque et nonnunquam antennis etiam et femoribus rufis, elytris maculatim squamosis. ♂ antennae fortius elongatae et graciles, clava elongata 3-articulata. Pronotum latissimum, antice sat abrupte angus-

<sup>1</sup> Since writing the above I find that three insects were sent by Mr Blackburn to Dr Sharp under the number 449, and are marked A, B, and C. One of these is the true *P. detritus*, the other two are examples of what I consider to be the commonest form of *P. angularis*, the type specimens of that species being an unusual variety. These two examples are very different to one another, one being very narrow in form, a variety which I have taken on several islands in company with the more usual one of *P. angularis*. The British Museum examples under *P. detritus* are also vars. of *P. angularis*.

tatum, ibique impressum, ad medium minus dense, latera versus densissime squamosum. Elytra post basim depressiuscula, maculatim aureo-squamosa, setis perpaucis erectis parum conspicue vestita, asperula, minus distincte punctata, angulis humeralibus obscurioribus. ♂ ♀. Long. circa 2.5 mm.

This little species is quite distinct, and rather reminds one of *P. dispar*. It appears to be very constant in its general appearance, and may be at once recognized from its nearest allies by its short and wide form, very wide thorax, long, slender antennae, dark colour, and the maculate arrangement of the squamosity of its elytra. The ♀ appears to be generally more slender, and of less distinctive appearance than is the ♂, but superficially the sexes much resemble each other.

HAB. Lanai, 2000 ft. Not a common species, about a dozen examples were taken in the winter of 1894.

(92) *Proterhinus analcis*, sp. nov.

Angustulus, sordide niger, vel piceus, squamis aureis irregulariter minus dense vestitus. Antennae breviores, graciles, nigrae, basi rufa, clava parum abrupte 3-articulata. Pronotum minus latum, saepe plus minusve evidenter 3-impressum vel antice tantum impressum, lateribus minus fortiter rotundatis. Elytra subirregulariter squamosa, setisque brevissimis erectis vestita, basi scutellum juxta utrinque plus minusve tuberculata, angulis humeralibus plerumque fere rectis. ♂ ♀. Long. 1.5—2.75 mm.

Quite one of the most obscure species of the genus and generally of minute size, and chiefly distinguished by the fact that it possesses, at least so far as I can see, no notable peculiarity of structure. The antennae are shorter than in most species, generally black, with one or more of the basal joints red, sometimes entirely black. The prothorax frequently shows three impressions, and is not at all wide. The elytra are usually subtuberculate at the extreme base on each side near the scutellum, and the squamous clothing is irregular and not dense, the erect setae short. These points and the obscure colour furnish the best characters, but the insect in reality is quite unlike any other species found on Lanai, nor will it agree with any of those taken on other of the islands.

HAB. Lanai, mountains; some dozens of this species have been examined.

(93) *Proterhinus epichlorus*, sp. nov.

♂ rufescens, rarius rufo-niger, pallide, vix vel haud maculatim, squamosus. Antennae fortiter elongatae, articulo secundo elongato, quam tertius vix vel haud minus longo. Pronotum latum, subaequaliter sat dense aureo-squamosum, lateribus fortiter rotundatis.

Elytra pallide squamosa, necnon setis brevibus erectis vestita, basi scutellum juxta subelevata, angulis humeralibus obscuris. Femora sat incrassata, lobis tarsorum anticorum haud minutis. ♂ ♀. Long. vix 2—2.5 mm.

Amongst the species with indistinct humeral angles, this is chiefly remarkable for the following characters, at least in the ♂ sex. The antennae are strongly developed, the basal joint robust and somewhat long, the second elongate, and when seen in some aspects as long as, or hardly less long than, the following. The club is of three joints, but not very distinct, as the intermediate joints are generally less slender than in many species. Thorax very strongly rounded at the sides. Lobes of front tarsi fairly well developed. Elytra with the erect setae short, and at the base in the region of the scutellum a little elevated. The colour of the insect is generally rufescent, sometimes with some darker markings on the elytra, but occasional specimens are much obscured with blackish colouring.

The ♀ which I assign to these males resembles it in general appearance but appears to vary in the length of the antennal joints.

The elongation of the second antennal joint in this species calls to mind *P. epimelas* of Maui, but the superficial appearance of the two is entirely different.

HAB. Lanai (2000—3000 ft.); not rare.

#### E. Species insulae Molokai propriae.

##### (94) *Proterhinus molokaiensis*, sp. nov.

Major, elongatulus, sordide niger, elytris magna ex parte rufescentibus. Antennae subvalidae, articulo primo fortius elongato, sed robustissimo, secundo brevissimo, clava evidenter 3-articulata, sed parum conspicua. Oculi magni fortiter prominentes. Pronotum subelongatum, dense punctatum, antice subabrupte et fortiter constrictum, 3-impressum, pallide squamosum, setis curvatis suberectis anterius marginatum. Elytra et longitudinaliter et transversim subinaequalia, dorso rufescente et pallide squamoso, subdeplanato, setis erectis pallidis conspersim sed conspicue vestita, remotius punctata, basi utrinque scutellum juxta fortiter tuberculata, humeris acutis, fortiter productis. Femora fortiter incrassata, lobis tarsorum anticorum parum elongatis, sed robustis. ♂. Long. 3.5 mm.

Allied to *P. validus* of Maui, this species is quite distinct.

HAB. Molokai. A single ♂ taken in the mountains at an elevation of 3000 ft., in June 1896.

(95) *Proterhinus convexiusculus*, sp. nov.

Nigricans (nonnunquam rufescens), elytris plerumque plus minus rufescentibus, sat convexus, pallide aureo-squamosus. Oculi magni, prominentes. Pronotum pallide squamosum, forma variabili, impressionibus sat profundis (nonnunquam lutoso-repletis), medium saepe longitudinaliter subsulcatum. Elytra sat convexa, pallide aureo- vel griseo-squamosa, squamis haud remotis minus distincte punctata, angulis ipsis humeralibus fortiter acute productis, sutura elevatula, setis erectis parce conspersis. Abdominis segmentum primum ventrale subtiliter granulatim asperulum. ♂ ♀. Long. 2.6—3.5 mm.

A variable species, individuals differing a good deal in size, colour, and distribution of the squamosity, as well as in the length and thickness of the antennae, &c. I have had some doubt as to whether it can be absolutely separated from that excessively variable species *P. integer* of Lanai, but have thought it better to keep the two apart. One almost entirely black example of this species has been taken, even the antennae being entirely of that colour, and only the tarsal lobes are piceous, and this individual has the elytra covered with grey squamosity. Usually the squamous covering is co-extensive with the red colour of the wing-cases, which typically are red at the base and there squamose, the apical dark parts being nearly free from squamosity, the extent of the red colour and squamous covering varying together. In *P. convexiusculus* it may be observed there is little or no trace of a transverse ridge between the front and vertex of the head.

HAB. Molokai, mountains, generally at an elevation of about 4000 ft. Numerous examples were taken, but many of them are in indifferent condition.

(96) *Proterhinus echinoides*, sp. nov.

Nigricans, elytris rufis, nigro-signatis, tibiis tarsisque rufescentibus, antennis fere nigris, pallide squamosus. Antennae breviores, subcrassae, clava 2-articulata. Oculi magni. Pronotum minus profunde 3-impressum, medium dense, latera versus minus dense, squamis pallidis vestitum. Elytra sat fortiter et fere aequaliter convexa, squamis pallidis necnon setis multis elongatis erectisque perconspicue vestita, basi scutellum juxta utrinque tuberculata, angulis humeralibus fortiter productis. Femora omnia cum tibiis setis elongatis pallidis conspicue vestita, tarsorum anticorum lobis sat minutis. ♂. Long. 2.5—2.7 mm.

A small species, but very easily recognized by the unusual development of the erect setae on the elytra and legs, the short stout antennae, with the club hardly more than 2-jointed, large eyes, small tarsal lobes, and nearly evenly and somewhat strongly convex elytra. One example has the antennae rather more elongate than the others.

HAB. Molokai, mountains (3000 ft.); three males taken in June 1896.



(97) *Proterhinus leucothorax*, sp. nov.

Nigro- vel rufo-piceus, pedibus antennarumque basi plus minus rufescentibus. Oculi sat magni, prominuli. Pronotum fortiter 3-impressum, setis appressis squamisque albidis dense vestitum (impressionibus 2 lateralibus densissime squamis albicantibus vestitis), medium postice subsulcatum. Elytra grossissime dense rugoso-punctata, maculis duabus albidis squamosis postice signata, ex maiore parte squamis carentia, sed setulis brevibus erectis albidis sat evidenter vestita, sutura distincte elevatula, cariniformi, angulis humeralibus fortiter productis. Femora postica parum fortiter incrassata. ♂ ♀. Long. 2—2.25 mm.

One of the smallest species of those which have the humeral angles of the elytra *strongly* produced forwards. It is chiefly remarkable for the gross sculpture of the elytra which are nearly free from squamous covering, and especially for the peculiarly dense whitish clothing of the thorax. I see no trace of a transverse ridge between the front and vertex of the head in the ♂, and only the faintest trace thereof in the ♀. The species is allied to *P. innotabilis*.

HAB. Molokai. Three examples (one of which has lost most of the squamous covering) were taken at an elevation of about 4000 ft.

(98) *Proterhinus angustior*, sp. nov.

Subgracilis, nigricans, elytris plus minusve (praecipue basim versus) rufescentibus. Antennae graciliores, minus fortiter elongatae, articulis basalibus plerumque rufescentibus, clava 3-articulata. Pronotum haud latissimum, ♀ saepe angustum, haud dense squamosum, subfortiter 3-impressum. Elytra angustiora, nigricantia, partibus pallidioribus (sc. rufescentibus) squamas pallidas ferentibus, setis erectis, elongatis, parce conspersis, sat evidenter vestita, fere aequaliter convexa, basi scutellum juxta utrinque plus minus tuberculata, sutura levissime elevata, humeris fortiter productis. Oculi parum fortiter prominentes. Femora omnia fortiter incrassata, lobis tarsorum anticorum minoribus. ♂ ♀. Long. 2.4—vix 3 mm.

The affinities of this species are evidently with *P. humeralis* of Maui, which in many respects it greatly resembles. All the femora are quite strongly incrassate, very much as in that species, but the antennae, especially those of the ♂, are much less developed, as also are the eyes and the lobes of the front tarsi. The chief variation exhibited by the seven examples taken lies in the shape of the prothorax, which is a good deal more globose in some than in others. No doubt in a long series the tendency would be to a greater elongation generally in the females, as I have observed to be the case with other species. The sides of the rostrum of the ♀ are slightly convergent from base to apex.

HAB. Molokai, mountains (3000 ft.).

(99) *Proterhinus heterotarsus*, sp. nov.

Nigricans, elytris rufis plus minusve nigro- vel fusco-notatis, tibiis, tarsis, antennisque plerumque rufis, his apicem versus nigricantibus. Antennae graciles, clava distincte 3-articulata. Pronotum aequaliter minus dense squamosum, minus fortiter 3-impressum, globosum, lateribus fortiter rotundatis. Elytra griseo-squamosa, setisque erectis pallidis conspersim vestita, basi emarginata, humeris productis et acutis. Femora sat incrassata; tarsorum anticorum articulus secundus brevissimus, fortiter transversus, lobis brevibus. Species praecedenti simillima. ♂ ♀. Long. 2—2·7 mm.

Apparently closely allied to the preceding species (*P. angustior*), but generally of less narrow form, and with the thorax more globose, the antennae rather longer and more slender, and the elytra more nearly covered with squamosity, the dark markings being reduced. The variation of both species makes it difficult to distinguish the two in description, but the tarsi appear to be constantly different in form, the lobes of the second joint of the front pair being in this species extremely short, and the whole joint very small and strongly transverse, while the rostrum of the ♀ is nearly parallel-sided, not gradually but slightly narrowed to the apex. The extent to which the humeral angles of the elytra are produced is decidedly variable.

HAB. Molokai, mountains (3000 ft.); only six or seven examples taken.

(100) *Proterhinus erythrodes*, sp. nov.

Minor, rufescens, totus fere aequaliter pallido-squamosus, elytris nonnunquam fusco- vel nigro-notatis. Antennae graciles, elongatae, clava distincte 3-articulata, rubricolores, nonnunquam articulis apicalibus nigricantibus. Oculi minores, parum prominentes. Pronotum globosum, parum distincte impressum, aequaliter pallide squamosum, lateribus fortiter rotundatis. Elytra pallide squamosa, setisque nonnullis pallidis erectis parum conspicue vestita, aequaliter convexa, basi leviter emarginata, humeris distinctis, sed vix acutis vel productis. Femora omnia cum tibiis tarsisque rufescentia (rarius obscurata), lobis tarsorum anticorum minutis. ♂ ♀. Long. 1·6—2·5 mm.

A small and obscure species, without any striking characters. The antennae are rather long and quite slender, with a distinctly 3-jointed apical club; they are often entirely of a clear red colour, but the apical joints are sometimes more or less dark. The colour of the insect is red, that of the thorax being sometimes more or less obscured, as also is the head, and the elytra often have some dark markings. The squamous covering is evenly distributed over the greater part of the surface. The elytra at the base are lightly emarginate, but the humeral angles are hardly produced, or distinctly acute. The eyes are small and the lobes of the front tarsi minute.

HAB. Molokai, mountains (3000 ft.); only nine examples of this species were taken.

(101) *Proterhinus ombrophilus*, sp. nov.

Totus niger, haud latus, squamis pallidis inaequaliter vestitus. Rostrum ♀ totum opacum, subtiliter longitudinaliter rugulosum, basim versus sensim angustatum. Antennae nigrae, breviores, clava parum distincte 3-articulata (sc. articulo 8° et 9° inter se haud multo diversis). Oculi minores, sed subprominuli. Pronotum haud dense squamosum, rugoso-punctatum, obscurius 3-impressum, lateribus minus fortiter rotundatis, et macula albida squamosa densiore signatis. Elytra haud inaequalia, basim versus haud distincte angustata, obscure punctata et ubique asperula, irregulariter (submaculatim) albido-squamosa, setis erectis brevibus et subconspicuis, basi leviter emarginata, humeris distinctis, sed minus fortiter prominulis. Femora haud fortiter incrassata, tarsi omnibus nigris. ♀. Long. 2 mm. vix superans.

This species is closely allied to the unique *P. nivicola* of Maui, with which it closely agrees in colour, clothing, form of antennae, and rostrum, as well as in the somewhat peculiar sculpture. It differs from that species at once in its much less elongate elytra, which do not exhibit the same tendency to inequality of the surface. *P. ombrophilus* has the elytra of only moderate length.

HAB. Molokai. A single example taken in the highest forest of the island, in May 1893.

(102) *Proterhinus pteridis*, sp. nov.

Elongatus, angustissimus, rufescens, elytris saepe plus minus fusco- vel nigro-maculatis. Antennae brevissimae, incrassatae, articulo primo robusto, triangulari (♀ etiam fortiter elongato), caeteris brevissimis, clava brevi tantum 2-articulata. Pronotum squamosum, saepe plus minus evidenter 3-impressum, impressione antica majore, lateribus minus fortiter rotundatis. Elytra perelongata pulchre maculatim squamosa, setisque albidis vestita, humeris haud productis. Pedes sat robusti, lobis tarsorum minutioribus. ♂ ♀. Long. 1·75—2·5 mm. (Plate IX. fig. 24. ♂.)

Although varying a good deal in the development of some of the characters, this small species by its elongate and very narrow form, its maculate elytra, and extraordinarily short and thick antennae, is one of the most remarkable and distinct species of the genus. It is I think allied to *P. navita*, which makes some approach to it in the structure of the two basal joints of the antennae.

HAB. Molokai (3000 ft.); in the leaf-stalk of a species of *Pteris*.

## F. Species insulae Hawaii propriae.

(103) *Proterhinus hawaiiensis*, sp. nov.

Nigro- vel rufo-piceus, statura majore. Antennae graciles, elongatae, articulo tertio cum sequentibus sat fortiter elongato, clava distinctissime 3-articulata, articulo 9°, quam 8<sup>us</sup>, multo longiore. Oculi permagni, fortiter prominentes. Pronotum profunde 3-impressum (impressione quarta postice plus minus distincta), setis depressis aliisque curvatis et erectis vestitum, haud latum. Elytra pallide squamosa, setisque erectis sat crebre conspicueque vestita, grosse punctata, basi scutellum juxta utrinque tuberculata, humeris productis. Femora minus fortiter incrassata, tibiis anterioribus elongatis et gracilibus, tarsorum lobis parum magnis. ♂ ♀. Long. vix 4—4.75 mm. (Plate X. fig. 8.)

Only a pair of this large species have been examined. The elytra are much more elongate in the ♀ than in the ♂, but otherwise, apart from the usual sexual differences, the two are very similar structurally. The puncturation of the elytra is apparently very coarse and rough, but is not clearly seen owing to the squamosity. The species is easily recognised by its large size, very large and prominent eyes, long slender antennae, uneven setose thorax, the elytra somewhat impressed along the suture, the more than usually elongate and slender clavate hind femora, the long slender front tibiae, and for the size of the insect the small lobes of the front tarsi. It is allied to *P. epitrachys* of Maui.

HAB. Hawaii, Kona, 3000 ft. September 1892, 1 ♀; Olaa, 2000 ft. November 1896, 1 ♂. No doubt a rare species.

(104) *Proterhinus vulcanus*, sp. nov.

Niger, tarsi antennisque plus minusve rufescentibus. Antennae sat elongatae sed crassiusculae, clava distinctissime 3-articulata (sive articulo 8°, quam 9<sup>us</sup>, multo minore). Oculi magni, fortiter prominentes. Pronotum profunde 3-impressum, pallide (sat dense) vestitum, antice (saepe abrupte) angustatum. Elytra inaequalia, dorso subdeplanato, irregulariter aut maculatim cinereo-squamosa, setis erectis pallidis sat conspicuis, basi scutellum juxta utrinque tuberculata, humeris productis. Tarsorum anticorum articulus secundus major, lobis haudquaquam parvis. Rostrum ♀ longitudinaliter rugulosum. ♂ ♀. Long. vix 3—3.25 mm.

This species appears to be allied somewhat to the *P. lecontei* of Maui, and also perhaps to the preceding species (*P. hawaiiensis*). There are distinct traces of longitudinal and transverse unevenness of the surface of the elytra, but it is much less marked than that of *P. lecontei*. The thickness of the antennae is no doubt variable,

and one ♂ has these organs evidently more elongate and more slender than those of the other examples of either sex. The general resemblance in colour and clothing between the few individuals secured is very great. It is one of the darkest species, and of rather large size.

HAB. Hawaii (3000—4000 ft.); rare, but widely distributed. Five examples only were secured in the Kona and Kau districts.

(105) *Proterhinus peles*, sp. nov.

Niger, lobis tarsorum antennisque nonnunquam rufescentibus, parce ferrugineo-squamosus. Antennae graciles, elongatae, clava distinctissime 3-articulata. Oculi magni, subconici, fortiter prominentes. Pronotum minus latum, minus profunde 3-impressum, antice subabrupte angustatum, aequaliter nec dense squamosum. Elytra subinaequalia, sparsim ferrugineo-squamosa, setisque gracillimis albis sat conspicue, nec dense, vestita, basi utrinque scutellum juxta tuberculata, humeris acute productis. Femora postica minus fortiter incrassata, lobis tarsorum anticorum magnis. ♂ ♀. Long. 2.75—3 mm.

A somewhat distinct-looking species, of dark colour and moderate size. The antennae are fairly long and quite slender, the club very well-marked, and consisting of three joints. The eyes and tarsal lobes are both large. The elytra are not much covered with squamosity, this being chiefly noticeable along the two by no means strongly marked longitudinal ridges. The suture is also a little raised. The humeral angles are produced and very acute, and the basal tubercles well marked, as also is the puncturation. The colour of the insect is black or obscure pitchy-black, the lobes of the tarsi and antennae sometimes paler. Rostrum of the female rugulose, dull, or hardly shining.

HAB. Hawaii, Kilauea (4000 ft.); 1 ♂ and 1 ♀ taken in 1895.

(106) *Proterhinus rufescens*, sp. nov.

Rufescens, capite, thorace, femoribusque, saepe obscurioribus, elytris plus minusve nigro-maculatis. Antennae minus fortiter elongatae, articulis saepe crassiusculis, nonnunquam sat gracilibus. Oculi magnitudine mediocres, prominuli. Pronotum sat fortiter 3-impressum, aequaliter subferrugineo-squamosum. Elytra rufa, nigro-maculata, subseriatim fortiter punctata, minus dense squamosa, albidis duabus postice maculis ornata, setisque albis elongatis rarius conspersa, fere aequaliter convexa, basi scutellum juxta utrinque tuberculata, humeris fortiter acute productis. Femora postica minus fortiter incrassata, lobis tarsorum anticorum magnitudine mediocribus. ♂ ♀. Long. 1.75—3 mm.

This species in its typical condition is distinct enough from any other of those taken on Hawaii. The antennae (as above indicated) vary in stoutness, and the insect varies greatly in size, while the colour is sometimes much obscured, dark varieties being occasionally found. Minute examples naturally have the eyes and other parts less developed. In general, the red colour, and strongly produced humeral angles of the nearly evenly convex elytra, which are deeply and distinctly punctured (at least in clean examples), and which have two distinct spots of whitish squamosity, one on either side of the suture towards the apex, will distinguish it from the several following species, to which it is most nearly allied. It may be observed that there is no distinct transverse ridge formed between the vertex and front of the head as in some species on the other islands, to which this is otherwise very similar in appearance.

HAB. Hawaii, Kau district (4000 ft.); 40 or more examples taken.

(107) *Proterhinus affinis*, sp. nov.

Elongatulus, minus latus, nigricans vel obscure rufescens, parte elytrorum dorsali tota vel ex majore parte rufa. Oculi magni. Antennae forma variabiles, saepius crassiusculae, nonnunquam graciles, articulo secundo brevissimo, clava distincte 3-articulata. Pronotum minus latum, vel subelongatum, minus dense pallide squamosum, plus minusve evidenter 3-impressum. Elytra irregulariter, plerumque maculatim, squamosa, dorso rufo, saepe subdepresso vel deplanato, basi utrinque scutellum juxta tuberculata, humeris distinctis, subacutis, parum productis. ♂ ♀. Long. 2.25—3.5 mm.

This variable species in the smallest examples bears a great resemblance to large ones of *P. gracilis*, but the two are certainly distinct, the eyes and tarsal lobes being normally more developed in *P. affinis*, and the antennae thicker. These latter organs, however, exhibit some variability both in stoutness and length. Examples of the species taken in Kona generally have the elytra more evenly convex, less flattened or depressed above. In those from Kau, they are, in some cases, not only distinctly flattened, but show traces of longitudinal and transverse ridges. The humeral angles are distinct, although but little produced, and the tubercles in the region of the scutellum are distinct. The hind femora are not very strongly incrassate. There is no distinct ridge between the vertex and front of the head.

HAB. Hawaii (3000—4000 ft.); about 50 examples were taken from various localities.

(108) *Proterhinus gracilis* Sharp.

*Proterhinus gracilis* Sharp, Tr. Ent. Soc. London, 1881, p. 529.

This species in its typical condition is distinct enough, by its narrow and elongate form (especially in the ♀), the slender antennae, and dark elytra, marked with red at the

base. I have assigned to it specimens of much more obscure appearance, and with the humeral angles of the elytra less produced, but it is quite possible some of these belong to another distinct species. In any case *P. gracilis* varies greatly in size, colour and length of the elytra. It is allied to the preceding species, *P. affinis*, as I have remarked under that insect.

HAB. Hawaii. Various districts and localities (3000 and 4000 ft.); a great number of examples were taken.

(109) *Proterhinus eurhynchus*, sp. nov.

Nigricans, elongatulus, elytris irregulariter pallide squamosus. Oculi magni, prominentes. Antennae subcrassae, rufescentes, clava 3-articulata. Rostrum ♂ elongatum, aequè longum ac latum, vel paullo longius, lateribus pubescentia pallida densiore marginatis. Pronotum minus latum, fortiter 3-impressum, setis appressis aliisque curvatis et suberectis vestitum. Elytra basim versus obscure rufescentia, ibique pallide squamosa, subinaequalia, basi scutellum juxta utrinque distincte tuberculata, angulis humeralibus subproductis et distinctis. ♂. Long. circiter 3 mm. (Plate X. fig. 9.)

This species is very like *P. affinis* in form and general appearance, but is of a darker colour. The antennae are quite stout, the intermediate joints being a good deal widened from the base to apex, being of elongate triangular form. The ♂ is easily known by the long rostrum, which is even a little longer than its width at the base, and is clothed at the sides with a dense outstanding pale pubescence. I cannot assign any ♀ to the two males with the above characters.

HAB. Hawaii, Kilauea; 2 ♂ taken in July 1895.

(110) *Proterhinus tarsalis* Blackb.

*Proterhinus tarsalis* Blackburn, Tr. Dublin Soc. III. 1885, p. 171.

Only three or four examples of this species were taken by me, the ♀ having the antennae a good deal more elongate, and thinner, than those obtained by Mr Blackburn. The species is a distinct one in superficial appearance, and is allied to *P. vestitus* Shp. and *P. angularis* Shp., having the basal abdominal segment closely and strongly punctured beneath, as in those species.

HAB. Hawaii, Mauna Loa, at an elevation of 6000 ft. (Blackburn); Kona (3000 ft.); a few examples taken.

(111) *Proterhinus hypotretus*, sp. nov.

Sordide niger, vel rufescens, elytris nigro-maculatis. Antennae minus fortiter elongatae, crassiusculae. Oculi minus fortiter prominentes. Pronotum minus dense squamosum, plerumque plus minusve evidenter 3- vel 4-impressum, impressione anteriore sat distincta. Elytra maculatim squamosa, macula albida humerali aliisque posterioribus subrotundatis, sat distinctis, setisque erectis gracilibus albidis conspicue vestita, basi leviter emarginata, humeris distinctis, sed parum productis. Abdominis segmentum primum ventrale dense ac fortiter punctatum. Long. 2.2—3 mm.

Allied to the preceding species, but of wider form, and differing in colour, the insect being redder. Also closely allied to *P. vestitus* of Oahu, some varieties of *P. angularis*, &c., but certainly distinct from any of these. In fresh examples the maculate arrangement of the squamosity of the elytra, and the numerous erect fine setae, are very conspicuous. The elytra themselves are usually flattened or slightly impressed along the suture, the condition of the humeral angles is very similar to that seen in the same parts of *P. vestitus*. The lobes of the front tarsi are by no means large.

HAB. Hawaii.

(112) *Proterhinus desquamatus*, sp. nov.

Ferrugineus (elytris cum capite nonnunquam obscuratis sive nigro-rufis), elongatus, parum squamosus. Antennae concolores, rufae, articulo secundo brevissimo. Pronotum parum latum vel subelongatum, parum profunde 3-impressum, subaequaliter nec dense squamulosum, angulis posticis macula squamosa densiore signatis, lateribus rotundatis. Elytra elongata, vix squamosa, setis erectis pallidis, minus elongatis, sparsim sed conspicue vestita, dense fortiterque punctata, basi emarginata, humeris acutis. Abdominis segmentum primum ventrale fortiter et distincte punctatum. ♂ ♀. Long. circiter 3 mm.

On account of its elongate narrow form, ferruginous colour, and lack (at least for the most part) of squamous covering, this species could only be compared with *P. ferrugineus*, so far as the species of Hawaii are concerned. It is distinct at once from that insect by the distinctly and strongly punctured basal segment of the hind-body beneath. Extremely closely allied to *P. detritus* of Lanai, it may be distinguished from that species by the more evenly rounded sides of the prothorax, which are not so strongly and abruptly narrowed in front, and the puncturation of the elytra is apparently rather less coarse.

HAB. Hawaii, Kona (2000—3000 ft.); rare, 2 ♂ and 1 ♀ only having been taken.



(113) *Proterhinus ferrugineus*, sp. nov.

Elongatus, ferrugineus, elytris saepe nigro-notatis, setis appressis erectisque vestitus, haud squamosus. Antennae concolores, ferrugineae. Pronotum haud latum, setis appressis, aliisque curvatis et suberectis latera versus vestitum, plus minusve evidenter 3-impressum, antice saepe abruptius constrictum. Elytra fortiter elongata, haud squamosa, setis erectis brevissimis, aliisque longioribus, conspicue et densius vestita, fortiter dense punctata, basi scutellum juxta utrinque tuberculata, angulis humeralibus productis et subacutis. Femora postica gracilia, parum fortiter clavata. Abdominis segmentum primum ventrale circa medium parum distincte punctatum, granulatim asperulum. ♂ ♀. Long. 3—4.2 mm.

Very closely allied to the Oahuan *P. longulus*, of which species it is the representative on Hawaii. Of *P. longulus* I have only seen the types in Dr Sharp's collection, but *P. ferrugineus* is no doubt on the average a larger species, and yet has the hind femora still less clavate, and also appears to differ slightly in the sculpture and clothing of the elytra, and in other small points.

HAB. Hawaii (4000 ft.). In the leaf-stems of the tree-ferns, to which *P. longulus* is also attached.

(114) *Proterhinus similis* Blackb.

*Proterhinus similis* Blackburn, Tr. Dublin Soc. III. 1885, p. 170.

Species maxime variabilis, antennis nigris vel nigrescentibus, articulis 2 basalibus haud distincte rufis, elytrorum basi saepe emarginata, sed angulis humeralibus ipsis haud acute productis, saepe minus distinctis. ♂ ♀. Long. 2—3.5 mm.

This species is so extraordinarily variable, that it would be useless to draw up any lengthy and minute description, as it would apply to but few examples. It belongs to the section in which the humeral angles themselves are not distinctly produced forwards and acute, although the base of the elytra is often emarginate. The insect is black, red, or parti-coloured, the elytra sometimes entirely covered, sometimes nearly free from squamosity, which varies in colour from golden to grey; sometimes they are maculately squamose. Often they are depressed or flattened, often evenly convex, but nearly always they appear slightly elevated at the extreme base near the scutellum, and at that point have a small area along the suture free from squamosity, even when elsewhere they are entirely covered. The antennae are exceedingly variable, short or of medium length, with the joints robust and minutely asperated, or decidedly elongate, even the second joint being sometimes somewhat long and slender, and there are various intermediate conditions. In colour they are black, even the basal joints being black or at least dark. This character readily distinguishes the species from the other species of this group (the Hawaii form of *P. deceptor*), which has the basal two joints (at least) of

the antennae clear red, and the second joint more rounded. In those examples with the longest and most slender antennae, the front tibiae are often much lengthened, and the tarsal lobes appear to be very minute, and decidedly smaller than are those of certain other forms. After the examination of a vast amount of material (consisting of hundreds of examples) I have come to the conclusion that this species is at the present time in the process of becoming differentiated into a number of distinct forms. Some of these forms indeed may already be really distinct species, but to decide whether this is the case would probably require very careful observations of the living insect in various localities.

HAB. Hawaii. Common on the mountains, especially at an elevation of about 4000 ft. The whole insect is often covered with a muddy substance.

G. Species quae duas vel complures insulas incolunt.

(115) *Proterhinus innotabilis*, sp. nov.

Nigricans vel piceus, rare rufescens, elytrorum basi plerumque rufescente et pallide squamosa. Oculi prominuli. Antennae graciliores, minus fortiter elongatae. Capitis vertex a fronte linea transversa elevata (nonnunquam fracta) divisus. Pronotum minus latum, subferrugineo-squamosum, fortiter et distincte 3-impressum. Elytra minus elongata, fortiter crebre punctata, sutura saepe elevatula, basi plerumque rufescente, ibique pallide squamosa, postice maculis duabus albidis squamosis utrinque suturam juxta saepe notata, setis erectis albidis minus fortiter elongatis sparsim vestita, ad basim utrinque scutellum juxta tuberculata (tuberculis saepe albido-squamosis), angulis ipsis humeralibus fortiter acute productis. ♂ ♀. Long. (exemplorum in insula Maui capt.) 2—3 mm.

So far as examples from Maui are concerned this is a small species, or at least only of moderate size in very largely developed individuals. It is one of the most obscure of the numerous species found on Haleakala, and is allied to *P. epichrysus* and *P. brevipennis*, but cannot be referred to either. On Molokai I have taken specimens of a *Proterhinus* exceeding like *P. innotabilis* but of larger average size, and which apparently pass from this form into one, which becomes largely different to the typical Haleakala form, and indeed in many respects approaches the Molokai species *P. convexiusculus*. These examples from Molokai are themselves a most puzzling series, and may represent more than one species, but I have not cared to consider them at present as more than varieties of *P. innotabilis*, especially as this species is itself not a little variable.

HAB. Maui, Haleakala (4000—5000 ft.), Molokai. Not rare, many examples having been taken. The examples taken on Molokai are apparently referable to the same species.

(116) *Proterhinus angularis* Sharp.

*Proterhinus angularis* Sharp, Tr. Ent. Soc. London, 1881, p. 530.

An extremely variable species, no examples of the very long series examined agreeing altogether with the original types. In the most common form the antennae are long and slender, and clothed with stiff and conspicuous setae. Thorax very variable in shape, generally rather narrow, rarely constricted in front as in the type. The anterior depression is usually deep and distinct, the two posterior ones often obsolete. The posterior angles are not distinctly marked by spots of dense squamosity. Elytra long and narrow, shoulders always produced, but not very sharp, marked with a patch of pale squamosity, and behind there are often a number of more or less distinct and roundish pale squamous spots.

Small examples are often of extremely narrow and elongate form. The dark colour, form of the humeral angles of the elytra, and patches of pale squamosity thereon, and the strongly and closely punctured basal ventral segment of the abdomen are the most constant characters. The type specimens are remarkable for the more obscure colour of the very conspicuous erect setae on the elytra, and I have only seen a few examples resembling them in this respect. Usually the longer setae are quite white, and I am by no means satisfied as to the identity of the two forms, which may be closely allied and variable but distinct species. The length varies from 2—3.5 mm.

HAB. Oahu, Molokai, Maui, Lanai, Hawaii. Generally attached to *Straussia*. Variable in each locality.

(117) *Proterhinus dispar* Sharp.

*Proterhinus dispar* Sharp, Tr. Ent. Soc. London, 1881, p. 528; Tr. Dublin Soc. III. 1885, Pl. V. fig. 41, ♀.

I have seen but few Oahuan examples of this species, but have taken it very freely on Molokai, and have also met with it on Lanai. It varies very greatly in size and otherwise, and the distinctive characters become much obscured in diminutive specimens. Some examples from Oahu have the head and thorax as well as part of the elytra of a distinct red colour, and the antennae vary from black to red. The great differences in size are not a sexual character, for of the Oahuan examples taken by me one of the females is twice as large as either of the males, and exactly the reverse is the case with the types in Dr Sharp's collection. The species is an interesting one on account of the

rather large development of the rostrum in the ♂, and in the same sex the posterior coxae are much less widely separated than in many species, much less widely than the front pair. In the ♀ the distance between the hind coxae is greater, so that it does not greatly differ from the majority of species in this respect.

HAB. Oahu, Molokai and Lanai; attached to *Wikstroemia*.

(118) *Proterhinus alyxiae*, sp. nov.

Latus, brevis, robustus, ferrugineus, pulcherrime squamosus. Antennae elongatae, articulis basalibus notabiliter robustis (secundo subquadrato), clavam versus sensim gracilentibus, clava gracili, vix evidenter 3-articulata. Pronotum trans medium latissimum, perinaequale, antice transversim fortiter impressum, parte posteriore fortiter elevata, antice posticeque ferrugineum, caetera parte densissime pallido-squamosa. Elytra brevia, lata, submaculatim squamosa, setisque albidis erectis conspersim vestita, dorso juxta basim impresso, ibique nigricante, basi emarginata, humeris productis. Femora omnia fortiter incrassata. ♂ ♀. Long. vix 3—3.2 mm. (Plate IX. fig. 23, ♂.)

Var. *pauper*. ♂ ♀ antennis gracilioribus, ♀ statura multo minore et forma graciliore distinguenda. ♂ ♀. Long. ♂ 2.75, ♀ 2 mm.

This beautiful species, on account of its short, wide form, reminds one at first sight of some Kauai species. It is not really closely allied to these, however, but it is so to *P. calliphyas* of Maui. It is distinct from that species by the accentuation of most of those characters, which render the latter remarkable. The distinction between the dorsum and flanks of the prothorax is clearly marked by the sharp edge formed at their meeting.

HAB. Molokai mountains (3000 ft.); rare, taken from stems of *Alyxia*. Four females (var. *pauper*) taken on Lanai are only half or less than half the size of the smaller Molokai examples, and have much more slender antennae. The single ♂ taken with these is about as large as the type, but its antennae are decidedly thinner.

(119) *Proterhinus navita*, sp. nov.

Haud latus, rufescens, sat dense pallide squamosus, elytris saepe plus minusve nigro-notatis. Antennarum ♂ articuli 2 basales perconspicue robusti, nigricolores; articuli sequentes graciliores, plerumque evidenter, sed minute, tuberculati, clava parum distincte 3-articulata (sive fere 2-articulata). Pronotum densius aureo-squamosum, antice plus minus impressum. Elytra aureo- vel griseo-squamosa, setisque brevissimis nonnullis erectis inconspicue vestita, angulis humeralibus obscuris. Tarsorum anticorum articulus secundus minor, lobis minoribus. ♂ ♀. Long. 1.5—3 mm.

The male of this species is distinguished chiefly by the stoutness of the two basal joints of the antennae, the first, in well-developed examples at least, being very stout and subtriangular in form, the second very short and quadrate, and their colour is black or nearly so. Normally it is a red insect, with only some fuscous or black spots on the elytra, and even these are sometimes absent, but in some examples the black colour is a good deal extended over the insect, the basal half of the elytra remaining pale. In general the ♀ resembles the ♂, but the peculiar character of the basal antennal joints is not always so pronounced. In faded examples the squamosity is grey, instead of golden.

HAB. Lanai (2000—3000 ft.); Molokai (3000 ft.).

(120) *Proterhinus debilis* Sharp.

*Proterhinus debilis* Sharp, Tr. Ent. Soc. London, 1878, p. 19.

I have not met with any examples on Oahu that agree with this species, and have only examined three or four specimens, so I do not know whether the antennae vary in structure. In its typical form it is quite distinct from any other Oahuan species. Mr Blackburn also referred some specimens taken on Hawaii to this species.

HAB. Oahu, Waianae mountains; and on Hawaii (Blackburn).

(121) *Proterhinus deceptor*, sp. nov.

Rufescens, elytris latera versus nigris vel nigro-notatis, horum angulis humeralibus haud distinctis. *P. oscillanti* simillimus, sed setis elytrorum erectis magis distinctis, et rostro ♀ evidenter minus elongato et latiore. ♂ ♀. Long. 1.75—2.25 mm.

This species is very similar in most respects to *P. oscillans*, the humeral angles of the elytra being usually very indistinct or effaced. The squamosity, which likewise has a tendency to form a number of roundish spots on the elytra, is thereon greyish or silvery rather than golden. Their erect setae in fresh examples are longer, more numerous and much more evident, and so also are those upon the legs. Usually the elytra are red, and black or infuscate only along the lateral margins, but sometimes about the middle the black colour extends inwards to form lateral spots as in *oscillans*. These distinctions alone would perhaps appear hardly sufficient for the formation of another species, were it not for the fact that the rostrum of the ♀ is decidedly shorter and wider than that of *oscillans*, and is not distinctly narrowed towards the base.

HAB. Oahu. Waianae range. Examples from slightly different localities do not altogether agree, and it is uncertain whether the series examined is really all of one species.

OBS. On Kauai a variable insect is found, which I refer to the above species. These Kauai examples are generally darker than those from Oahu, and have the elytra often entirely blackish, or only obscurely red. On Molokai or Lanai the species is again found, and the individuals again are subject to much variation. On Hawaii the individuals attain a considerably larger size than the type, and on this island form two distinct races, one found on the windward and southern parts of the island, the other in the Kona district on the west. These Kona examples are readily distinguished from the others by the more elongate and conspicuous erect setae of the elytra, and they are of smaller average size. For these two races I propose the names *P. deceptor* var. *major* and var. *konanus*.

(122) *Proterhinus blackburni* Sharp.

*Proterhinus blackburni* Sharp, Tr. Ent. Soc. London, 1878, p. 17.

*P. hystrix* Sharp, op. cit. 1881, p. 527, = var. of this species.

(Plate X. fig. 5, ♂, var. *bisignatus*.)

This species varies greatly in size, colour, form of thorax, length of elytra, &c., and I do not think the *P. hystrix* Sh. is a distinct species. On Kauai there are two well-marked varieties, the var. *eugeniae*, var. n., of somewhat robust form, the thorax with strongly prominent lateral angles in front, the erect setae of the elytra dense, and with a good deal of pale appressed clothing, which tends to form four spots, the antennae longish and slender; and the var. *bisignatus*, var. n., which a good deal resembles the preceding form, but is darker, and has the basal tubercles of the elytra conspicuously marked with white or silvery appressed setae. The sculpture and clothing of this species is often entirely concealed by a mud-like covering, and it is not improbable that I have included several distinct species under one name, for it is one of the most difficult species to study, and many of the examples taken are in indifferent condition, but supposing there are several allied species, they are certainly all variable.

HAB. Found on all the islands of the group, in the forests from 1500—4000 ft.; the var. *hystrix* on Hawaii, var. *bisignatus* peculiar to Kauai, and var. *eugeniae* on the same island, but with very similar examples on Molokai.

## COLEOPTERA HETEROMERA.

All the Heteromera, with the exception of the Cistelidae, are probably foreign. Those that are not known at present to occur outside the islands will probably be discovered elsewhere as the study of Coleoptera progresses.

## Fam. OEDEMERIDAE.

OXACIS Leconte.

(1) *Oxacis collaris* Shp.*Ananca collaris* Sharp, Tr. Dublin Soc. 1885, p. 169.

HAB. Oahu, Molokai, and probably all the islands on the plains. I observed this species in great numbers on the quarantine island at Honolulu, where it was crawling over shrubs covered with the scales of *Ceroplastes*.

## Fam. ANTHICIDAE.

ANTHICUS Payk.

(1) *Anthicus oceanicus* Laf.*Anthicus oceanicus* Laferté, Mon. Anth. p. 170.

HAB. Kauai, Oahu and Maui and probably all the islands; on the coast.

(2) *Anthicus mundulus* Shp.*Anthicus mundulus* Sharp, Tr. Dublin Soc. 1885, p. 168.

HAB. Oahu and Kauai (Blackburn). Salt marshes near sea-level.

## Fam. CISTELIDAE.

The Cistelidae are represented by two genera, *Cistela* with seven, and *Labetis* with three<sup>1</sup> species. The latter genus is peculiar to the islands, as are all 10 of the species of this family. All are true forest insects, and are certainly indigenous. Species of both genera have been found on Kauai and Hawaii, but not on all of the intermediate islands, so that no doubt several species are yet to be discovered. So far as is known no species of either genus extends its range to two of the islands.

<sup>1</sup> The two examples taken on Oahu by Mr Blackburn and which probably represent other two distinct species are not included in these remarks.

## CISTELA Fabr.

(1) *Cistela crassicornis* Sharp.

*Cistela crassicornis* Sharp, Tr. Dublin Soc. 1885, p. 168, Pl. IV. fig. 25.

HAB. Oahu. Mountains near Honolulu. Palolo valley (Blackburn); my single example was taken at the head of Pauoa valley, which is not far distant. It is, I have no doubt, of the ♀ sex. It has the elytra densely punctured, and I fancy that Sharp's description of the ♂ 'elytris parcius punctatis' is rather apparent than real and is due to the condition of the specimen, which is not thoroughly clean.

(2) *Cistela kauaiensis*, sp. nov.

Rufo-brunnea, ad colorem testaceum varians, capite thoraceque opacis, densissime punctatis, elytris subnitidis, suturam versus plus minusve evidenter striatis, ibique saepe impressis, sat crebre punctatis, punctis nonnullis seriatim dispositis. Long. 7.5—9 mm. Antennarum 4—4.25 mm. (Plate X. fig. 22.)

Extremely like *C. crassicornis* but larger and with very evidently longer antennae. The species agrees generally in sculpture with that species. It varies a little in the length and structure of the antennae, irrespective of sex, but even in the most highly developed ♂ the joints are elongate even towards the apex. In this sex the three which precede the apical joint are distinctly grooved beneath. The apical ventral segment in the ♂ has the apical margin somewhat raised, and this is to some extent the case in some of the ♀♀, but usually this segment in the ♂ has a more flattened or impressed form than in the other. The apical joints of the antennae in the ♀ are narrower than the ♂, and but little serrate inwardly.

HAB. Kauai 4000 ft. Not common.

OBS. Two or three examples from Lihue on the same island taken at an elevation of 3000 ft. have shorter antennae and are only of the size of the smaller individuals of *C. kauaiensis*. They are therefore somewhat intermediate between that species and *C. crassicornis* but probably are distinct from either.

(3) *Cistela nigricollis*, sp. nov.

Nigra, elytris brunneis, antennis pedibusque testaceis, capite nitido. Long. 7 mm., antenn. 3.5 mm. ♂.

Very closely allied to *C. kauaiensis*, but smaller and readily distinguished by the black head and thorax, the former in front being distinctly punctured, not very densely



and rugosely, and with the surface between the punctures distinctly shining. The joints of the antennae (♂) towards the apex are also rather shorter and wider.

A single example taken at Halemanu, Kauai, is larger with longer elytra and has the front of the head more closely punctured, but otherwise resembles the type. I should think it is probably a distinct species.

HAB. Kauai. High plateau (4000 ft.).

(4) *Cistela subaenescens*, sp. nov.

Nigra (♀ piceo-nigra), pedibus antennisque testaceis, his apices versus obscurioribus, elytris subaeneo-micantibus. Long. circa 7 mm., antenn. circa 3 mm.

Black, or in the ♀ piceous, the elytra with distinct aeneous glitter. Head and thorax densely punctured. Antennae of the ♂ with the terminal joints shortish, and serrate inwardly, deeply grooved beneath, less wide in the ♀, testaceous at the base, becoming infusate towards the apex. Elytra shining, pubescent, aeneous, somewhat densely punctured.

HAB. Oahu, Waianae mountains (3000 ft.).

(5) *Cistela apicalis*, sp. nov.

Elongata, angustula, nigricans, antennis, pedibus et parte elytrorum apicali, testaceis, oculis permagnis. Long. 7·6 mm.

Extremely like the preceding, a little more elongate, the elytra with a very faint indication of brassy reflection in certain lights, testaceous on their apical portion, less shining, and less strongly and more obscurely punctured than in *C. subaenescens*, the antennae entirely clear testaceous, and the eyes decidedly larger.

HAB. Oahu. Two examples were taken in the mountains at Honolulu in the summer of 1896.

(6) *Cistela montana*, sp. nov.

Nigricans vel piceus, elytris aeneo-micantibus, antennis testaceis, apices versus saepe obscurioribus, antennis brevioribus, articulis apicalibus parum fortiter dilatatis. Long. 6—6·5 mm., antenn. vix 2·5 mm.

A rather smaller species than *C. subaenescens*, which it greatly resembles, and easily distinguished by the shorter antennae, which have the apical joints much less strongly dilated in the ♂. In colour and sculpture the two species are identical, and one example of a rufo-piceous colour I suspect is the ♀ of *C. montana*.

HAB. Kauai. Four examples were taken on the high plateau.

(7) *Cistela kona*, sp. nov.

Fusco-brunneus, pedibus antennarumque basi testaceis, elytris nitidis, submetallicis, sat evidenter sed parum profunde striatis, crebre punctatis, punctis nonnullis seriatim dispositis, interstitiis convexiusculis. Long. circa 6 mm.

Of an obscure brownish colour, the head and prothorax darker, the face in front of the antennae and the legs testaceous. Head very densely punctured, the eyes by no means large. Prothorax nearly dull, very densely punctured, strongly transverse, truncate or slightly emarginate in front. Elytra shining, distinctly and closely punctured, with the interstices even towards the sides quite distinctly convex, so that the striation is more evident than in any other species. In the single example taken only the basal joints of the antennae remain, and these present no noteworthy characters. Perhaps most nearly allied to *C. montana*, but quite distinct from this and other species by the condition of the elytral interstices, and also apparently remarkable for the very wide prothorax, the sides of which are nearly straight and parallel for about two-thirds of their length from the base. The eyes are smaller than in most species of the genus. The single mutilated example is probably a ♀.

HAB. Hawaii, Kona, 5000 ft. A single example (mutilated) was taken from a spider's web.

## LABETIS Waterhouse.

(1) *Labetis hawaiiensis*, sp. nov.

Nigra, subnitida, elytris testaceis vel brunneis, antennis (articulis basalibus exceptis) nigricantibus, pedibus testaceis. Long. 10—12 mm. Antenn. 5—7 mm.

Head black, closely punctured in front, but the surface more or less shining between the punctures. Prothorax black, the surface shining, closely punctured, with a narrow smooth median longitudinal impression, more distinct in some examples than in others, and in some there are also indefinite impressions, rendering the surface more or less uneven. Elytra varying in colour from testaceous to brownish, striate, the striae nearest the suture often deeper than the outer ones, closely punctured, the interstices conspicuously punctate, the punctures closer in some examples than in others, the surface shining. At the apex the first and second interstices are about equally convex. Anterior tibiae with the superior apical angle greatly produced (varying in development), and rounded at the apex. Abdomen beneath black, finely punctured, the apical segment very deeply impressed in the ♂, and faintly but evidently so in the ♀.

HAB. Hawaii, Kilauea ; a series of over a dozen examples taken in August.

(2) *Labetis tibialis* Waterhouse.

*Labetis tibialis* Waterh., Ent. Mag. xv. p. 267.

Haud nitida, testacea, pronoto saepe fusco-testaceo, antennis plerumque testaceis, elytrorum interstitio primo et secundo apicem versus subaequaliter convexus, haud inaequaliter elevatis. Long. 10·5—12·5 mm.

Closely allied to the preceding, but easily distinguished by the dull surface, and the pale colour of the prothorax, the antennae also are pale. One example has the prothorax largely blackish, but it is pallid about the middle. Abdomen black (or nearly so) beneath. The depth of the impression of the apical ventral segment of the ♂ evidently varies.

HAB. Kauai, 4000 ft., on the high plateau. That the examples taken by Blackburn on Oahu and referred to this species are, as I suspected, distinct, has been confirmed for me by Mr Waterhouse, who kindly examined the Oahuan specimen in the British Museum. Probably the Oahuan species is very near to if not identical with my *L. hawaiiensis*. The Blackburnian collection should contain two species from Oahu, probably one from either mountain range (vide Tr. Dublin Soc. 1885, p. 248), for there is no such variation in size in the species of this genus, as that given by Blackburn for his two examples (l. c. p. 167), one of which is much smaller than the other known species of the genus, the other probably the largest.

(3) *Labetis comitans*, sp. nov.

Praecedenti cognatissima, opaca, testacea, capite pronotoque nonnunquam plus minus infuscatis, hoc saepe piceo, elytrorum interstitio secundo apicem versus fortissime convexo-elevato, primo plus minus obsoleto, abdominis segmentis ventralibus (saltem ex magna parte) pallidis. Long. 10—12·5 mm. (Plate X. fig. 21.)

Quite like the preceding in general appearance, and differing constantly, so far as I can see, only in the paler underparts of the body, and the sculpture of the elytra near their apex. In this species the second interstice is extremely convex, as also is the sutural margin, while the first interstice is little or not at all raised, and a deep groove is thereby formed between the suture and the second interstice. The elytral interstices are generally more strongly and densely punctured than in either of the preceding species, but all vary in this respect.

HAB. Kauai. Taken in company with *L. tibialis*. Of the 18 examples of *Labetis* taken in company, 8 belong to the present species, and 10 to *L. tibialis*. I can detect no variety in the least intermediate between these, and therefore must consider them distinct. Nearly all the examples of both are of the ♂ sex.

(4) *Labetis*, sp.?

HAB. Oahu. Mountains near Honolulu (Blackburn). See remarks under *L. tibialis* (ante).

(5) *Labetis*, sp.?

HAB. Oahu (? Waianae mountains), Blackburn. See remarks under *L. tibialis* (ante). This and the preceding species are stated (Tr. Dublin Soc. 1885, p. 248) to have been obtained in localities 20 miles apart.

## Fam. TENEBRIONIDAE.

## EPITRAGUS Latr.

(1) *Epitragus diremptus* Karsch.

*Epitragus diremptus* Karsch, Berlin. Ent. Zeitschr. xxv. p. 6.

HAB. Generally distributed throughout the islands.

## OPATRUM Fabr.

(1) *Opatrum seriatum* Boisd.

*Opatrum seriatum* Boisd., Voy. Astr. Col. p. 252.

HAB. All the islands of the group, on the lowlands.

## PLATYDEMA Cast.

(1) *Platydema obscurum* Shp.

*Platydema obscurum* Sharp, Tr. Dublin Soc. 1885, p. 166.

HAB. Oahu. Probably characteristic of the lowlands.

## GNATHOCERUS Thunb.

(1) *Gnathocerus cornutus* Fabr.

*Trogosita cornuta* Fabr., Ent. Syst. Supp. p. 51.

HAB. Oahu, Honolulu.

## TRIBOLIUM MacL.

(1) *Tribolium ferrugineum* Fabr.

*Tenebrio ferrugineus* Fabr., Sp. Ins. I. p. 324.

HAB. Oahu, Honolulu &c., in food.

## ALPHITOBIOUS Steph.

(1) *Alphitobius diaperinus* Panz.

*Tenebrio diaperinus* Panz., Ins. Germ. 37, 16.

HAB. Lowlands of most or all the islands.

(2) *Alphitobius piceus* Ol.

*Helops piceus* Ol., Ent. III. 58, p. 17.

HAB. Generally distributed in the islands.

(3) *Alphitobius lateralis* Boh.

*Heterophaga lateralis* Boh., Eug. Res. 1858, p. 94.

HAB. Oahu, Honolulu.—Maui. Introduced, probably from China. This species was kindly determined for me by Mr Champion.

## SCIOPHAGUS Sharp.

(1) *Sciophagus pandanicola* Fairm.

*Heterophaga pandanicola* Fairm., Rev. Zool. 1849, p. 446.

HAB. Oahu and Kauai (Blackburn).

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Fam. CIOIDAE.

The Cioidae is a family of doubtful position. They are represented by 42 species, 29 of which are referred to the genus *Cis*, and 13 to a new genus, *Apterocis*. The members of the latter genus are the most remarkable island representatives of the family, although most of those assigned to *Cis* are themselves of peculiar facies, and very unlike the ordinary representatives of the genus. There is however no doubt that both these genera, as represented in the islands, will hereafter be further divided.

Thus in *Apterocis* some of the species e.g. *A. ephistemoides* are quite regularly convex, the prothorax being very closely adapted to and continuing the curve of the elytra. In others, e.g. *A. rufo-notatus*, *A. variegatus*, &c., the outline is not regularly convex, but is interrupted at the point of contact of the elytra and prothorax. Some of the species of this latter group closely resemble *A. ephistemoides* in general appearance, but others e.g. *A. variegatus* have a very coarse sculpture, and one (*A. hystrix*) is unique in the genus as being conspicuously clothed with erect hairs. We also notice differences in the structure of the mesosternum in front of the coxae, and in *A. variegatus* and probably in the allied *A. ornatipennis*, the metasternum is less short than is normal in the genus.

Of the species assigned to *Cis*, *C. pacificus* is the most commonplace and greatly resembles European species, and will probably be found to be not indigenous. It has some resemblance to *C. brevipennis* but to no other species, and the latter also has a very different appearance to the truly indigenous species, and I suspect may prove to be also foreign. Another species *C. alienus* may also prove to have been introduced. The remaining 26 species are all of peculiar facies, and exhibit considerable variety of form and appearance, and must be considered as peculiar to the islands. *Cis molokaiensis* (and probably *C. haleakalae*, the unique example of which could not be examined from this point) is wingless or nearly so, but we have not separated it generically on that account, because the wings of another species, *C. fallax*, are in a more or less rudimentary condition, and we are not even certain whether this species is more than a variety of the normally full-winged *C. signatus*. Besides these species, *C. minus* and *C. diminutivus* appear to me to belong to the same group, and will probably prove to have the wings either absent or rudimentary, the abortion of the wings being accompanied, in most of the species at least, by a shortening of the metasternum. In these characters it will be seen that the insects above mentioned approach to the genus *Apterocis*, but they lack the oval and highly convex form, which is so striking a feature of the latter. Nevertheless the complex affinities between the Hawaiian species of *Cis* (excluding the doubtfully indigenous forms) and *Apterocis* render it highly probable that the latter originated in the islands, through forms somewhat similar to some of the species of *Cis*, which now inhabit them.

Some few of the species of *Cis* are found in large fungi growing externally on trees, but the greater number are attached to dead branches of trees, or found beneath dead bark, where they no doubt feed on the smaller fungi which grow in such places. Individuals of many of the species are numerous, and they are no doubt parasitised by the minute Hymenoptera of the genera *Sierola* and *Scleroderma*, which are taken in their company. We have lately bred forms (winged and wingless) allied to these Hymenoptera from the burrows of *Ennearthron*, another genus of Cioidae, in this country.

## Cis Latr.

(1) *Cis alienus* Sharp.

*Cis alienus* Sharp, Tr. Ent. Soc. London, 1879, p. 91.

This is very different to any other Hawaiian species, and is probably either a natural immigrant, or has been introduced by man. Its general appearance, the clothing of the under parts, the great length of the prosternum in front of the coxae &c., are all foreign to the true native type.

HAB. Oahu, Honolulu, mountains; two examples taken (Blackburn); Waianae mountains, several examples, Perkins. It is probably a scarce insect.

(2) *Cis pacificus* Sharp.

*Cis pacificus* Sharp, Tr. Ent. Soc. London, 1879, p. 91.

The most common-place species of the genus as represented in the islands, and probably not truly indigenous. The processes on the head of the ♂ vary greatly in development.

HAB. Throughout the islands in the mountain forests.

(3) *Cis breviformis*, sp. nov.

Parum elongatus, ferrugineus, pronoto plus minusve infuscato, pedibus antennisque rufo-testaceis, harum articulis apicalibus nigricantibus. Pronotum opacum vel minus nitidum, brevissime griseo-pubescens, sat latum, densius subtiliter punctatum. Elytra breviuscula, griseo-pubescentia, haud maculata, parum profunde ruguloso-punctata. Long. 2 mm.

Somewhat like *Cis pacificus* in form, and quite unlike any other Hawaiian species. The thoracic puncturation is rather close and very fine, that of the elytra is larger, but shallow, rugose and irregular. Both the thorax and elytra are clothed with very short pale setae, which hardly stand out from the surface, but are quite conspicuous, and with the short form and ferruginous colour give the species a very distinctive appearance.

HAB. Molokai. Two examples taken at an elevation of above 4000 ft.

(4) *Cis nesiotes*, sp. nov.

Subcylindricus, haud fortiter convexus, pronoto aeneo, antice posticeque saepe pallescente, elytris testaceis, marginibus lateralibus fasciaque transversa circa media nigris, setulis pallidis brevissimis inconspicue vestitis. Pronotum nitidum distincte sat fortiter punctatum. Elytra grosse denseque rugoso-punctata. Pedes articuli antennarum basales testacei, femoribus saepe antennarumque clava nigricantibus. Long. vix 2—2.5 mm.

A distinct species with the thorax always brassy or coppery, elytra pale, black along the margins and about the middle of their length with a transverse fascia, which forms two sharp angles. This fascia is sometimes broken up into detached spots. The species is chiefly remarkable for the coarse (but shallow) and very rugose puncturation of the elytra, which even on the apical portions is hardly different in character. The very short pallid setae are quite evident but not conspicuous. There are no long hairs on any part of the elytra. There is considerable variation in the puncturation of the prothorax, the punctures being very much coarser and closer in some examples than in others, and in many the surface of this part is evidently uneven.

(5) *Cis cognatissimus*, sp. nov.

Praecedenti forma et colore simillimus, pronoto aeneo, nitido distincte punctato, elytris testaceis nigro-signatis, basi grossius rugoso-punctata, setulis pallidis brevissimis vestitis, apicem versus minus dense rugoso-punctatis et laevioribus. Long. 1.7—2.25 mm.

Extremely like the preceding, and very variable in size; in some examples the median transverse fascia of the elytra is represented by two spots, but usually it forms a sharp angular mark on either wing-case just as in the preceding. The thorax is distinctly and clearly punctured, more closely in some examples than others, the surface shining. The elytra are less rugosely punctured, towards the apex a good deal smoother and the punctures less close and rugose than in *C. nesiotes*, and for this reason the two forms cannot be considered identical. The clothing is of the same character in both the species.

HAB. Kauai, Oahu, Lanai, Molokai, Hawaii, in the mountains from 2000—4000 ft.

(6) *Cis bicolor* Sharp.

*Cis bicolor* Sharp, Tr. Ent. Soc. London, 1879, p. 93; Blackburn, Tr. Dublin Soc. 1885, p. 163, Pl. IV. fig. 22.

This is a distinct species and is I believe quite distinct from *C. tabidus* Shp., which in Tr. Dublin Soc. (l. c. supra) was sunk as a variety of it, as well as from the



forms with aeneous thorax mentioned in Blackburn's note (l. c.). The latter at least in part are no doubt referable to *Cis cognatissimus* or *C. nesiotes*, or to both of these species. Usually *C. bicolor* may be distinguished at a glance from these species by its general appearance. The prothorax is black, not aeneous, and is widely pale in front and more or less so posteriorly. The elytra are testaceous with a black spot on each about the middle, and in front of these is another spot placed transversely across the suture. This transverse spot is absent in only a few examples in a long series and it is doubtful whether these are really specifically identical with the others. The elytra in very fresh specimens bear some excessively short setae rather like those of *C. cognatissimus*, but there is no trace of any long fine hairs at the sides or apex. The species is of rather elegant form owing to its convexity, and the rather rounded sides of the elytra. The chief variation is seen in the puncturation especially of the prothorax, which in some examples except at the extreme base is excessively smooth and shining and nearly impunctate, but we have taken examples distinctly punctured in company with the very finely punctured individuals. The length varies from 1.5—2.5 mm.

HAB. In the mountains of all the islands. The var. in which the trans-sutural black spot on the elytra is wanting has occurred on Kauai and Hawaii, and these individuals are above the average in size.

(7) *Cis bimaculatus* Sharp.

*Cis bimaculatus* Sharp, Tr. Dublin Soc. 1885, p. 161.

The largest Hawaiian species of the genus, but very variable in size, some examples, both from Hawaii and Maui, being only about one-third the bulk of the larger individuals. These dwarf specimens are taken in company with those of normal size. Otherwise this species exhibits little or no variation. There are no long hairs on the elytra, but excessively short pale setae are present, at least in fresh examples. Length 2.2—3.2 mm.

HAB. Maui, Haleakala.—Hawaii, at elevations of 3000—5000 ft. Not rare, about 30 examples have been examined.

(8) *Cis nigrofasciatus* Blackb.

*Cis nigrofasciatus* Blackburn, Tr. Dublin Soc. 1885, p. 162.

(Plate X. fig. 18.)

Seven examples of this species were taken and they exhibit no noteworthy variation, except that some are considerably larger than others. The setae of the elytra are excessively minute, and hardly visible even under a very strong lens. Length 2—2.7 mm.

HAB. Lanai, 2000—3000 ft. Blackburn's unique example was taken on the same island.

(9) *Cis unicus*, sp. nov.

Testaceus, nitidus, haud setosus, capite infuscato, elytris in parte basali lateraliter nigro-fuscis. Pronotum nitidum, subtilius vix dense punctatum. Elytra nitida, grossius irregulariter ruguloso-punctata. Long. 2 mm.

Closely allied to *C. nigrofasciatus*, but smaller than the smallest example of that species, and decidedly more shining. The puncturation of the elytra is coarse but shallow, somewhat rugose and irregular, the punctures appearing to differ in size. The colour of the elytra is testaceous, but the basal half is to a large extent blackish or infuscate, except along the suture, and the dark colour at a point rather beyond the middle of the length of the wing-cases extends inwards nearly to the suture, to form a vague interrupted band. I can detect no trace of setae either on the thorax or the elytra.

HAB. Hawaii. A single example was taken at Kilauea.

(10) *Cis porcatus* Sharp.

*Cis porcatus* Sharp, Tr. Ent. Soc. London, 1879, p. 92.

This minute species is easily recognized by its dark colour, very dense sculpture and short grey clothing, which however is easily abraded. The head of the ♂ is produced into strong angular processes, which vary greatly in development.

HAB. One of the commonest of the island species and of general distribution in the forests from 1500 to 4000 ft.

(11) *Cis insularis* Sharp.

*Cis insularis* Sharp, Tr. Dublin Soc. 1885, p. 164.

(Plate X. fig. 19.)

A unicolorous, or nearly unicolorous, testaceous species, with strong and very dense puncturation over the whole surface, the elytra and also the prothorax in fresh examples bearing excessively short setae. The thorax and base of elytra are sometimes infuscate, and in some the elytra are quite pallid, but there are no distinct markings. The ♂ has the front of the head produced into two processes, which, as usual, vary greatly in development. Length 2—2.7 mm.

HAB. Kauai, Oahu, Lanai, and Hawaii. Taken on most of the islands rather sparingly, and it no doubt occurs on all. It is found in the forests from 2000—4000 ft. About a score of examples were captured.

(12) *Cis chloroticus* Sharp.

*Cis chloroticus* Sharp, Tr. Dublin Soc. 1885, p. 164.

This is another normally immaculate species of a testaceous colour, the thorax and base of elytra sometimes more or less inclined to fuscous. The surface in this species is not quite glabrous, as in a profile view of the prothorax some short, fine, erect hairs can easily be detected, although they are sparsely distributed. Length 1·7—2·25 mm.

HAB. Maui, Haleakala (4000—5000 ft.); not common.

(13) *Cis simulator* sp. nov.

Elongatus, subconvexus, nitidus, testaceus, capite nigricante, pronoto saepe plus minusve infuscato, elytris utrinque nigro-maculatis, apices versus lateraliter setis gracilibus elongatis sparsim vestitis. Pronotum subremote distincte punctatum. Elytra basim versus obscure punctata, puncturatione subobsoleta. Long. 1·75—2·2 mm.

In the condition of its clothing this species resembles the following (*Cis tabidus*), the head and prothorax bearing fine, erect setae, very short on the latter, and easily abraded, the elytra at the sides towards the apex having a sparse clothing of long, fine hairs. It differs from that species in its larger average size, and more convex form, and the elytra are more pointed behind, being decidedly less parallel-sided. The insect would appear to be very constant in its general appearance, being testaceous in colour, with dark head, and two black spots at about the middle of the length of the elytra. In some examples the thorax is more or less obscured with fuscous or blackish clouding. At the base the elytra have an obscure, indefinite, and subobsolete, but rather large puncturation. In general appearance and form this species is extremely similar to *C. chloroticus*, but that insect has immaculate elytra, and is devoid of the long hairs at the sides of the elytra towards the apex.

HAB. Maui, Haleakala (5000 ft.); about a dozen examples taken.

(14) *Cis tabidus* Sharp.

*Cis tabidus* Sharp, Tr. Ent. Soc. London, 1879, p. 93.

Distinct from *Cis bicolor*, under which species it was sunk by Blackburn. It is very variable in size, colour &c. and also in the puncturation of the prothorax, which is much closer in some than others. In fresh examples the elytra bear some long fine hairs at the sides towards the apex, and even in some specimens all along the sides, as

well as some shorter erect ones on the thorax, often abraded. The prothorax varies in colour from black to testaceous, and the elytra are sometimes nearly wholly infusate, rarely entirely testaceous and immaculate. *Cis tabidus* appears to be most closely allied to the even more variable *C. setarius*, and although the colour, prothoracic puncturation &c., are normally different, still it is by no means easy to know to which of the two species certain examples should be assigned. The shape of the prothorax, length and convexity of the elytra &c. appear to vary analogously in either species.

HAB. Oahu and Kauai. Common. Most and probably all of the islands.

(15) *Cis setarius* Sharp.

*Cis setarius* Sharp, Tr. Dublin Soc. 1885, p. 162.

*Cis apicalis* Shp. *loc. cit.* = var.

*Cis concolor* Shp. *loc. cit.* p. 163 = var.

A most variable and perplexing species allied to the preceding but darker in colour, often entirely black or castaneous, generally with the anterior or both this and the posterior margin of the prothorax pale, the base of the elytra dark but more or less of the apex often pale, sometimes more than the apical half of a testaceous colour. Fine long hairs can generally be detected at the apex of the wing cases, sometimes also they form a regular but not dense clothing all along the sides, and hairs of a similar character can be detected standing erect on the prothorax. This part is usually shining, strongly but not densely punctured, and the elytra have a large and more or less indefinite puncturation at the base. In some examples the puncturation of the prothorax is extremely fine, and it appears that the species is more or less different according to the locality, but varies much in each. The length of the elytra and their convexity as well as the width of the prothorax are also variable. Length 1.2—2 mm.

HAB. Abundant on Hawaii in the mountains, and also found on the other islands including Kauai, so that it is of general distribution.

(16) *Cis calidus* Sharp.

*Cis calidus* Sharp, Tr. Dublin Soc. 1885, p. 164.

Apparently a rather variable species, the puncturation being denser and more regular both on the prothorax and elytra in some examples than in others. It also varies in size and colour, the latter being sometimes quite black and sometimes castaneous. The dense regular clothing of fine erect setae is easily abraded and then the species is not very easily distinguished from some well clothed individuals of the very variable *C. setarius*. Length 1.5—2 mm.

HAB. Kauai and Oahu. A few examples taken in the mountains.

(17) *Cis signatus* Sharp.

*Cis signatus* Sharp, Tr. Ent. Soc. Lond. 1879, p. 92.

*Cis attenuatus* Shp., Tr. Dublin Soc. 1885, p. 165 = var. of *C. signatus*.

(Plate X. figs. 20, 20 a, 20 b and 20 c.)

Extremely variable in colour. The palest examples are nearly entirely testaceous, having only two or four dark spots on the elytra, one example indeed apparently referable to this species is entirely immaculate. The darkest individuals are black with only the anterior and posterior margins of the prothorax, and two spots near the apex and one on the suture of the elytra in front of these, testaceous, so that probably entirely black examples of the species may occur. The prothorax is not infrequently of an entirely testaceous colour, and is much wider in some examples than in others. *Cis attenuatus* Shp. is no doubt a variety of this species. The puncturation of the elytra is a little stronger in some examples than is usually the case. Length vix 1.5—2.25 mm.

HAB. Taken on all the islands, commonly on Maui, Lanai and Hawaii, from 1500—5000 ft. in the mountains.

(18) *Cis roridus* Sharp.

*Cis roridus* Sharp, Tr. Dublin Soc. 1885, p. 165.

Apparently most nearly allied to *C. signatus* but differing in colour &c. and with a stronger sculpture. It varies considerably in size, but not very greatly in other respects. Length 1.6—2.2 mm.

HAB. Most, and probably all, of the islands. A series was obtained in Kona, Hawaii (4000—5000 ft.), and we have taken it on Kauai, Molokai and Lanai.

(19) *Cis kauaiensis*, sp. nov.

Testaceus, capite nigro, elytris maculis compluribus plus minusve conjunctis variegatis, setis nullis vestitus, minus fortiter convexus. Pronotum rufo-testaceum, densissime punctatum, postice evidenter utrinque subimpressum. Elytra dense fortiterque rugoso-punctata, macula nigra humerali, aliisque compluribus ad media plus minusve conjunctis, ornata, subnitida et nuda. Long. 2.6 mm.

A very distinct species somewhat allied to *C. signatus*, but more convex, with different markings, much stronger and coarser puncturation, and apparently with no trace of setae on the elytra or prothorax. Curiously enough the peculiar elytral markings are almost, if not quite, identical with those of some examples of *Apterocis variegatus* and *A. ornatipennis*. The scutellum is very distinct, and the wings are fully developed. The prothorax is very finely, but distinctly, margined at the sides, but not at all posteriorly. The surface of the elytra is distinctly shining between the dense and somewhat coarse punctures.

HAB. Kauai. A single example was taken on the high plateau (4000 ft.).

(20) *Cis molokaiensis*, sp. nov.

Niger, brevissime, sed conspicue, griseo-setulosus, pronoto antice posticeque plus minusve testaceo-signato. Pronotum latum, lateribus fortiter rotundatis, postice haud evidenter marginatum, densissime ruguloso-punctatum. Elytra densissime ruguloso-punctata, punctis ipsis vix discernendis. Metasternum breve. Abdominis segmenta ventralia punctata. Alae nullae (an rudimentariae?). Long. 1.4—2 mm.

This and the following four or five species will probably hereafter be separated generically from the other Hawaiian *Cis*. As it would appear that *Cis signatus* in certain varieties makes an approach in form to these species, we have not thought it advisable to form a new genus at present, until the question of variation in that species has been thoroughly investigated. *Cis molokaiensis* on account of its dark colour and grey setulosity somewhat resembles *C. porcatus* Shp., but it is abundantly distinct therefrom by its stronger sculpture, wider prothorax (which, however, varies in width in different specimens), and more elegant form, as well as by the shorter metasternum and the fact that the wings, if present at all, are rudimentary. There is a faint development of tubercles on the head of the ♂, but they are very small compared with those of well-developed *C. porcatus*.

HAB. Molokai. High wet forests, Sept. 1893.

(21) *Cis haleakalae*, sp. nov.

Niger, pronoti margine antico, pedibus, antennarumque basi, testaceis, praecedenti affinis sed major et latior, haud evidenter setulosus. Pronotum subtiliter densissime ruguloso-punctatum. Elytra dense ubique rugulosa, punctis ipsis haud vel vix discernendis, lateribus sat rotundatis, apicibus subacuminatis. Long. 2 mm. (Plate X. fig. 17.)

Somewhat of the form of the preceding, but with the elytra more rounded at the sides, and more pointed behind. The sculpture of the elytra is very remarkable, being of a finely strigose character. There is little doubt the species is wingless, although we have not been able to investigate this and other points of structure.

HAB. Maui. A single example on Haleakala (5000 ft.).

(22) *Cis mirabilis*, sp. nov.

Niger, ore, antennarum basi, pronoti margine antico maculaque postica, elytrorumque fascia subapicali testaceis. Pronotum fortiter densissime punctatum. Elytra convexuscula, fortiter rugosa, et punctata, haud setosa. Long. 2 mm.

A very remarkable species of the same curious form as *C. haleakalae*, and no doubt either wingless or with only rudimentary wings, though it has not been examined in this respect. The coarse rugose sculpture of the elytra, amongst which distinct puncturation is evident, distinguish it at once.

HAB. Kauai, 4000 ft. One example captured.

(23) *Cis fallax*, sp. nov.

Testaceus, pronoto saepe medio nigricante vel fusco, elytris nigro-maculatis, *C. signatus* colore similis, et eodem vestitu et puncturatione, sed forma magis convexa, elytrorum lateribus magis rotundatis, alis brevioribus, ad apices elytrorum haud extensis, distinguendus. Long. 1.5—vix 2 mm.

I have found it necessary to separate a few examples taken in company with *C. signatus* from that species, although they do not differ from certain of its varieties either in colour, clothing or sculpture. They are decidedly more convex than *C. signatus* and the sides of the elytra are more rounded, so that they often appear rather shorter and more pointed at the apex. On dissecting one of these specimens we find the wings to be less developed than those of the preceding species, and in repose they do not nearly reach to the apex of the abdomen, as is the case in the numerous examples of *C. signatus* that we have examined. For these reasons it is advisable for the present to consider the two forms as distinct species.

HAB. Oahu. Three or four examples have been taken in the Waianae mountains in company with *C. signatus*.

(24) *Cis minus*, sp. nov.

Nigricans, pedibus, antennarum basi, pronoti margine antico et postico (vel horum altero), elytrisque testaceis, his nigro-signatis; colore variabilis, nonnunquam totus testaceus, elytris nigro-notatis; *C. signatus* vestitu et colore simulans, setulis brevissimis crebre ubique vestitus. Pronotum densissime punctulatum. Elytra subinaequalia, basim versus grossius rugoso-punctata. Long. 1.5—2 mm.

Like many specimens of *C. signatus* in colour and setulosity, but easily distinguished by the coarse but shallow punctures on the elytra, the surface of which is somewhat rugose and uneven, and the insect is more convex. The wings are apparently not fully developed as compared with the ordinary condition of these organs in the genus, but we have not been able to fully examine the species with regard to this point. There are normally four black spots on the dorsum of the elytra, which may be connected more or less laterally.

HAB. Maui, Haleakala (5000 ft.); three examples taken.

(25) *Cis diminutivus* Sharp.

*Cis diminutivus* Sharp, Tr. Ent. Soc. London, 1879, p. 94.

HAB. Oahu. Two examples were taken on Konahuanui by Mr Blackburn; we have not met with this species, which appears to be quite distinct.

(26) *Cis evanescens* Sharp.

*Cis evanescens* Sharp, Tr. Ent. Soc. London, 1879, p. 95.

This minute species is easily distinguished from any but the following species by the very feeble and fine, often hardly perceptible, puncturation of the prothorax. In some examples the prothoracic punctures though sparse and feeble are distinguishable, in others the surface is practically impunctate, and the surface usually dull. The elytral sculpture is also variable, but always feeble, and consists of a rugulosity of the surface rather than puncturation, and is sometimes hardly perceptible. In some examples the thorax is of a testaceous colour as is usual in the following species. The entire insect is without clothing. Length 1—1.5 mm.

HAB. Found on all the islands in the mountain forests from 2000—4000 ft.

(27) *Cis laeticulus* Sharp.

*Cis laeticulus* Sharp, Tr. Ent. Soc. London, 1879, p. 94.

Resembles *C. evanescens* for the most part in sculpture, but the elytra are, at least in most examples, decidedly more elongate, and the hinder angles of the prothorax are very slightly prominent and acute. This point of distinction between the two species is generally difficult to appreciate without separating the elytra from the thorax, but appears to be quite constant. In typical examples the prothorax is of a pallid colour and contrasts greatly with the elytra, which also are sometimes pale on their apical portion. Examples from Lanai probably referable to the same species have the elytra and thorax concolorous, or at least the latter is not much paler than the former. One of these Lanai examples, however, hardly differs from the typical examples, although the individuals were all taken in company. Length 1.2—1.5 mm.

HAB. Oahu and Lanai. Probably on all the islands but not collected on the others. If I remember rightly the species is found on withered leaves of *Freycinetia*, where it no doubt feeds on some species of fungus.



(28) *Cis longipennis* Blackb.

*Cis longipennis* Blackburn, Tr. Dublin Soc. 1885, p. 162.

HAB. Kauai. 'A single specimen was found in dry wood on the mountains.' (Blackburn.) We have not met with this species, which must be very closely allied to the following.

(29) *Cis angustiformis*, sp. nov.

Angustus, elongatus, parum convexus, fusco-niger ad colorem testaceum varians, pronoto nonnunquam testaceo, *C. laeticulo* cognatissimus, sed elytris sat evidentius longioribus distinguendus. Long. 1.2—1.5 mm.

Very closely allied to *C. laeticulus*, with which it agrees in the obsolete, or nearly obsolete, sculpture, and in having the hinder prothoracic angles a little acute and prominent. Darker examples are concolorous, except that the apices of the elytra are generally a little paler; the paler individuals have the elytra of a fusco-testaceous colour, and the prothorax rather clear testaceous, so that there is some contrast between the colour of these parts, but it is not so striking as in typical *C. laeticulus*, while the darker specimens resemble the Lanai form of this species. It cannot however be treated as a form of *C. laeticulus*, as the elytra are decidedly longer in proportion to their width, indeed the great elongation of the insect is quite remarkable.

HAB. Oahu. Seven examples were taken in company in the Waianae mountains, at an elevation of 3000 ft.

## APTEROCIS, gen. nov.

Forma ovali, fortissime transversim et longitudinaliter convexa, metasterno parum elongato, alis nullis.

Allied to *Cis* with the antennae &c. similarly formed, but of oval shape, and extremely convex longitudinally and transversely. The species are wingless and the metasternum is shorter than in *Cis*. There are no processes on the front of the head of the ♂ in any of the species known, but this sex may be known, in many of the species at least, by the presence of a tubercle on the basal abdominal segment beneath.

(1) *Apterocis ephistemoides* Sharp.

*Cis ephistemoides* Sharp, Tr. Dublin Soc. 1885, p. 165, Plate IV. fig. 21.

This species varies greatly in size and in some examples a few long hairs can be detected at the sides of the elytra. Length 1—2 mm.

HAB. Common generally in the mountains.

(2) *Apterocis vagepunctatus* Blackb.

*Cis vagepunctatus* Blackburn, *loc. cit.* p. 166.

HAB. Oahu. A single specimen in the mountains near Honolulu (Blackburn); I have not met with this species.

(3) *Apterocis lanaiensis*, sp. nov.

Nigricans, pronoto nonnunquam plus minusve piceo vel rufescente, elytrorum apice humerisque rufo-maculatis, antennarum basi pedibusque rufescentibus. Nitidus, valde aequaliter convexus, pronoto ruguloso-punctato, postice haud evidenter marginato. Elytra circa basim sparsim vage punctata. Abdominis segmenta ventralia evidenter densius punctata. Long. circa 2 mm. (Plate X. fig. 14.)

A very distinct species by the rugulose punctured prothorax, vague scattered punctures at the base of the elytra and the distinct humeral and apical red spots on the latter. The general form of the insect is like that of *Cis ephistemoides*.

HAB. Lanai. Three examples were taken on the summit of the mountains.

(4) *Apterocis montanus*, sp. nov.

Brunneus, valde aequaliter convexus, capite pronotoque nigricantibus, hoc antice posticeque pallido-marginato, antennis testaceis. Pronotum remote subtiliter subobsolete punctatum, postice levissime marginatum. Elytra basim versus obsoletissime punctata, vage subrugulosa, setulis brevissimis pallidis, vix videndis, ferentia. Abdominis segmenta ventralia necnon metasternum nitida et impunctata. Long. circa 2.2 mm.

*Apterocis montanus* var. *minor*, var. nov.

Minor, pronoto fere impunctato, elytris plaga vaga transversa obscuriore. Long. circa 1.5 mm.

Much smaller than the typical specimens, but obtained in company with these. They differ in the nearly or quite impunctate prothorax, and the elytra have the base and apex paler than the middle portion, giving them a vague banded appearance. I can detect both sexes in these small examples and it is possible that they are really a distinct species.

Two or three examples from Molokai appear to belong to this species and in some respects unite the typical examples with the var. *minor* by the following characters:

Brown, the prothorax with some very fine remote subobsolete punctures, the base of the elytra with some very feebly impressed nearly obsolete but rather large ones. The apical portion of the elytra is of a pale testaceous colour and much paler than the brown basal portion much as in the var. *minor*.

HAB. Maui, Haleakala, 5000 ft., typical form and the var. *minor*; also on Molokai above 4000 ft. Rare.

(5) *Apterocis variabilis*, sp. nov.

Nitidus, valde aequaliter convexus, colore variabili, sed elytrorum apice extremo semper pallido. Pronoto distincte subtiliter nec dense punctato, postice haud distincte marginato. Elytra basim versus remote punctata, punctis saepe obsoletis, vix videndis, nonnunquam sat distinctis sed parum profundis. Abdominis segmenta ventralia dense subtiliter punctata. Long. 1.5—2 mm.

Variable in colour, like *A. ephistemoides* in form, but of larger average size. Black with the thorax more or less piceous, the apex of the elytra pale and with a reddish spot at either shoulder sometimes united to form a transverse fascia, or entirely reddish-brown, with only the apex of the elytra paler than the general colour, the elytra being a little darker in colour in front of the pale apex, thereby rendering the paleness more distinct. Intermediates occur between the extreme forms. The dark varieties (? males) have the thorax more closely punctured, and the puncturation of the basal part of the elytra generally rather large and distinct, although shallow. In the pale forms (? females) the elytral puncturation is often hardly observable, but there is evident variation in this respect. The mesosternum in front of the middle coxae is I believe formed as in *A. ephistemoides*, so that the front pair are almost contiguous with these.

HAB. Oahu, Waianae mountains, several examples taken. In some varieties this species greatly resembles *A. lanaiensis* but the puncturation of the prothorax is not rugulose as in that species, others resemble *A. montanus*, which has the thorax much less distinctly punctate.

(6) *Apterocis hawaiiensis*, sp. nov.

Niger, nitidus, valde fere aequaliter convexus, elytrorum apice rufescente. Pronotum nitidum, subtiliter remote punctatum, postice haud evidenter marginatum. Elytra nitida, basali parte praecipue versus latera grossius remote punctata. Metasternum et abdominis segmenta ventralia dense punctata; segmentum basale ♂ tuberculo forti munitum. Mesosternum breve, parte sculpturata praecoxali fortiter obliqua. Long. circa 2 mm.

The half-dozen examples of this species show no noteworthy variation in colour, but some have the puncturation of the thorax less fine, and the punctures at the base of the elytra more numerous and coarser. I suspect these differences are for the most part sexual. Very short pale and inconspicuous setae can be detected in fresh examples.

HAB. Hawaii (4000 ft.).

(7) *Apterocis rufo-notatus*, sp. nov.

Niger, nitidus, prothorace nonnunquam rufo-piceo, elytrorum apice rufescente, humerisque maculis rufis, saepe in fasciam transversam conjunctis, signatis. Pronotum fortiter minus sparsim punctatum. Elytra basim versus grosse remote punctata. Mesosternum dense sculpturatum, parte antica vix obliqua. Abdominis segmenta ventralia dense subtiliter punctata. Var. elytris nigris, haud rufo-notatis. Long. 1.5—2 mm.

Found in company with *A. hawaiiensis*, but distinguished by the general form, the prothorax and elytra not forming together such an even and continuous curve. The mesosternum in front of the coxae is so little oblique that it nearly continues the plane of the metasternum. Some examples have the thorax decidedly more finely and remotely punctured than others, the variation being analogous with that exhibited in the same parts of *A. hawaiiensis*.

HAB. Hawaii (4000 ft.). Six examples taken.—Molokai (4500 ft.). One mutilated example taken, apparently identical with those from Hawaii.

(8) *Apterocis impunctatus*, sp. nov.

Nigricans vel nigro-piceus, antennis pedibusque rufo-testaceis. Pronotum impunctatum, nitidum, postice distincte marginatum. Elytra nitida, impunctata, corpore subtus impunctato. Long. 1—1.5 mm.

In many respects very like *A. ephistemoides* but readily distinguished by its form, the outline of the thorax and elytra not forming the very even curve that is seen in that species. Posteriorly the prothorax is finely but very distinctly margined.

HAB. Oahu, Waianae mountains.—Kauai, Makaweli (2500 ft.) one very minute individual.

(9) *Apterocis variegatus*, sp. nov.

Niger, sat elongatus, ovalis, glaber, elytris testaceis, nigro-variegatis, pronoti margine antico maculaque basali, antennarumque articulis basalibus, testaceis. Pronotum densissime grosseque rugoso-punctatum, subimpressum et subinaequale, postice vix

marginatum. Elytra grosse rugoso-punctata, basim versus sulcis longitudinalibus compluribus, male definitis, inaequalia, testacea, maculis nigris plus minusve conjunctis eleganter variegata. Metasternum fortiter punctatum. Abdominis segmenta 2—5 dense subtilius punctata. Long. 2·5 mm.

Remarkable for its fusiform-ovate shape, and the excessively dense coarse sculpture. The metasternum is not so much shortened as is usual in the genus, and the mesosternum in front of the coxae is rather long, horizontal, and densely sculptured except along the narrow articulating margin. No doubt this insect and others allied to it will hereafter be separated from typical *Apterocis*, which are much more strongly convex and differ in the form of the mesosternum, but if so it will be necessary to form several new genera for this remarkable group of insects.

HAB. Maui, Haleakala (4000—5000 ft.). Rare, four examples only having been met with.

(10) *Apterocis ornatipennis*, sp. nov.

Forma, magnitudine, et colore praecedentis, sed pronoto minus dense rugoso-punctato, punctis ipsis facile distinguendis, distinctus. Long. 2—2·5 mm. (Plate X. fig. 15.)

Very closely allied to *A. variegatus*, and only differing in the sculpture of the prothorax, which is less extremely dense, and though the puncturation is very rugose the individual punctures are moderately distinct, and do not run into one another to the extent that is seen in the other species. The pale colour of the margins of the prothorax is also of greater extent, and in one example the prothorax is entirely piceous in colour.

HAB. Lanai (2000—3000 ft.); very rare, two examples only having been met with.

(11) *Apterocis strigosus*, sp. nov.

Castaneus, rufo-brunneus, vel testaceus (an immaturus?), elytris prothorace pallidioribus, latissime nigro-fasciatis, maculisque duabus nigris ad basim plerumque ornatis. Pronotum fortiter punctatum et longitudinaliter strigosum, nitidum, postice haud evidenter marginatum, margine antico pallido, et ad angulos anteriores flavo-maculatum. Elytra fortiter convexa, ad basim latiuscula, apices versus attenuata, basi grosse rugoso-punctata, setas pallidas brevissimas inconspicuas sparsim ferentia. Metasternum sat breve, fortiter punctatum. Abdominis segmenta 4 ultima distincte subtiliter punctata. Long. 1·7—2·2 mm. (Plate X. fig. 16.)

In this species the markings on the elytra are variable, the two spots at the basal

margin being sometimes connected with the wide transverse fascia, but sometimes are altogether wanting. The extreme apex of the elytra is usually dark. The mesosternum is prolonged subhorizontally in front of the coxae, almost continuing the plane of the metasternum. It is coarsely sculptured except for the very narrow front margin which is overlapped by the prosternum.

HAB. Molokai. Highest forests above 4000 ft.

(12) *Apterocis subaeneus*, sp. nov.

Praecedenti cognatissimus, sed forma paullo angustiore, prothorace nigro, subaeneo-micante, ad angulos anteriores haud flavo-maculato, distinguendus. Long. vix 2 mm.

Extremely like *A. strigosus* but a narrower insect with black slightly aeneous prothorax, which is not maculate at the front angles. The pale setae are observable on the thorax, and on the elytra they are decidedly less inconspicuous than is the case in the preceding species. A series of examples may, however, prove this to be only a variety of *A. strigosus*.

HAB. Maui. A single example taken on Haleakala at an elevation of 5000 ft.

(13) *Apterocis hystrix*, sp. nov.

Unicolor, testaceus, aut capite nigricante, ovalis, sat convexus, setis erectis elongatis dense ubique vestitus. Pronotum latum, postice haud marginatum, densissime subtiliter punctatum. Elytra dense irregulariter rugoso-punctata. Long. circa 2 mm.

Unlike any other species, in form something like *A. strigosus* and its allies, the convexity of the elytra and prothorax not forming a very strong and even curve, when viewed laterally. The elytral puncturation is dense, rugulose and indefinite, the punctures apparently not being of even size, and but shallowly impressed.

HAB. Lanai. Two examples (one mutilated) were taken on the top of the mountains.

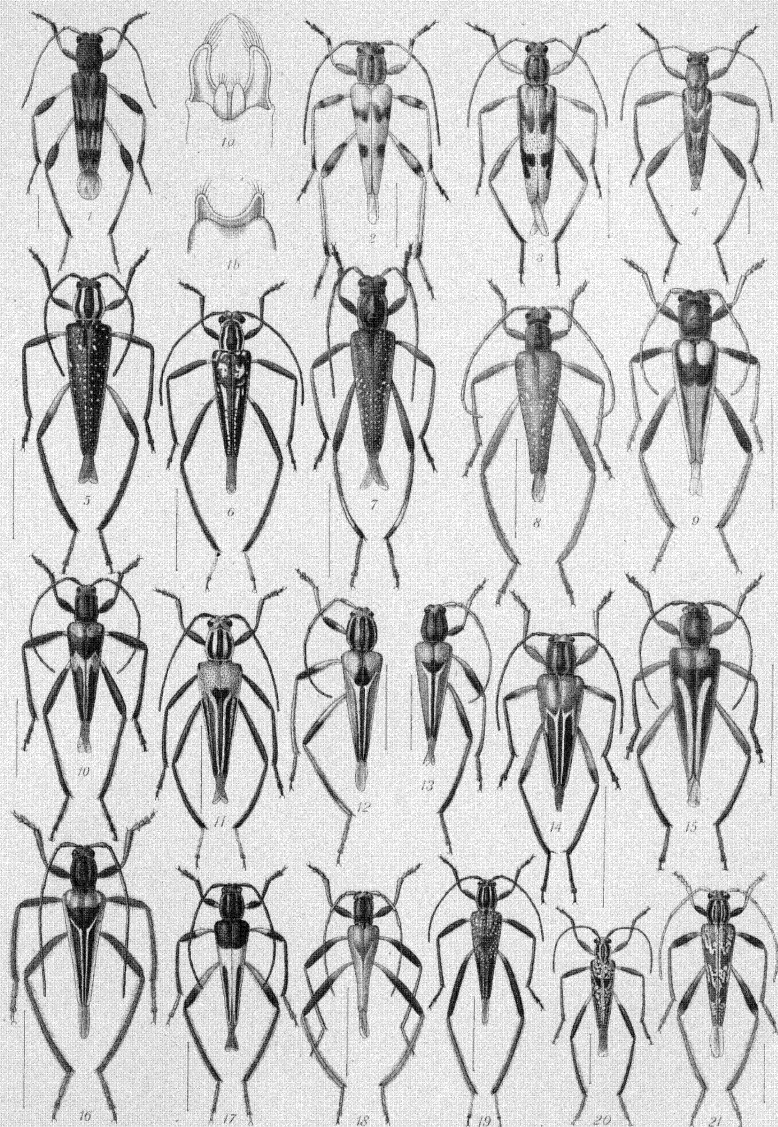


DESCRIPTION OF PLATE VI. (VOL. II.)

COLEOPTERA. CERAMBYCIDAE.

- Fig. 1. *Clytarlus mediocris* ♂.  
Fig. 1 a. Terminal ventral segments of *Clytarlus filipes* ♂.  
Fig. 1 b. " " " *mediocris* ♂.  
Fig. 2. *Clytarlus pennatus* ♂.  
Fig. 3. " " ♀.  
Fig. 4. *C. longipes* ♂.  
Fig. 5. *Plagithmysus vitticollis* ♀.  
Fig. 6. *P. permundus*.  
Fig. 7. *P. newelli* ♀.  
Fig. 8. *P. concolor* ♀.  
Fig. 9. *P. cuneatus* ♀.  
Fig. 10. *P. funebris* ♂.  
Fig. 11. *P. diana*.  
Fig. 12. *P. bishopi*.  
Fig. 13. *P. collaris* ♂.  
Fig. 14. *P. bilineatus* ♀.  
Fig. 15. *P. perkinsi* ♀.  
Fig. 16. *P. darwinianus* ♂.  
Fig. 17. *P. sulphurescens* ♂.  
Fig. 18. *P. albertisi* ♂.  
Fig. 19. *P. munroi* ♀.  
Fig. 20. *P. arachnipes* ♀.  
Fig. 21. *P. cristatus* ♂.





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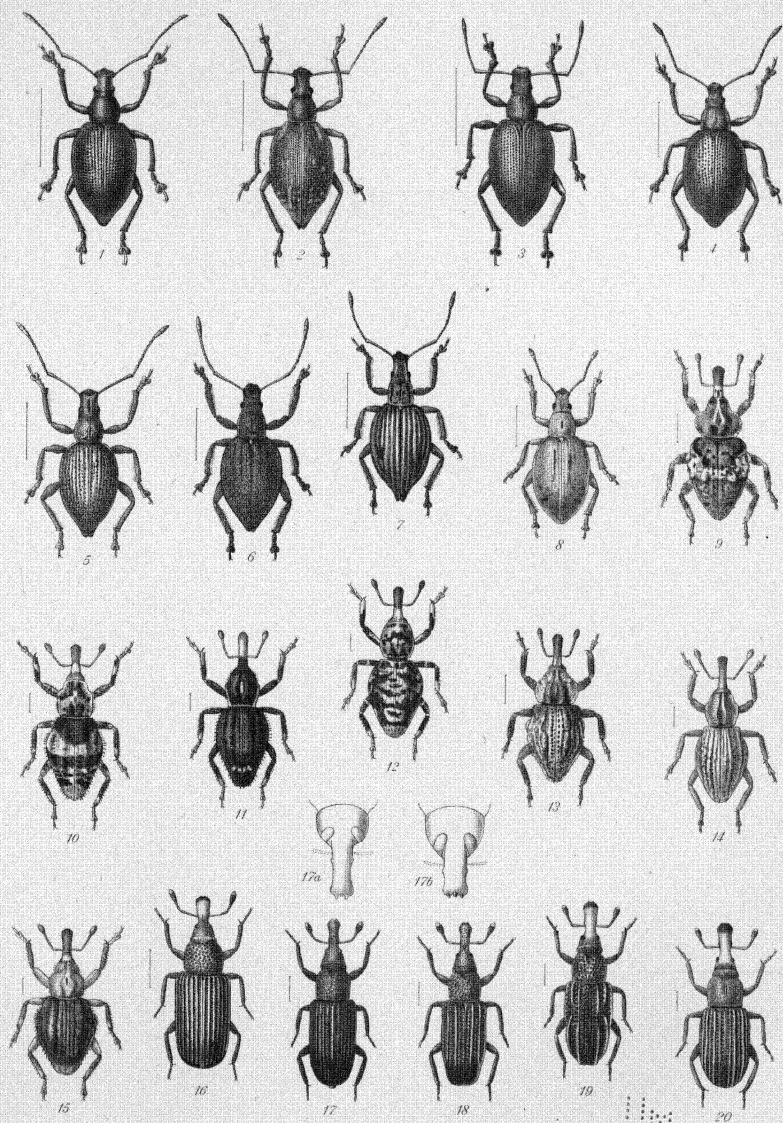




DESCRIPTION OF PLATE VII. (VOL. II.)

COLEOPTERA. CURCULIONIDAE.

- Fig. 1. *Rhyncogonus nitidus*.  
Fig. 2. *R. squamiger*.  
Fig. 3. *R. stygius*. (N.B. Although in the figure this species appears very like No. 1, it is really very different, being opaque, whereas *R. nitidus* has the surface shining.)  
Fig. 4. *R. freycinetiae*.  
Fig. 5. *R. koebelei*.  
Fig. 6. *R. depressus*.  
Fig. 7. *R. vittatus*.  
Fig. 8. *R. vestitus*.  
Fig. 9. *Acalles lateralis* ♂ (Kauai form).  
Fig. 10. *A. callichroma*.  
Fig. 11. *A. melanolepis*.  
Fig. 12. *A. leptothorax*.  
Fig. 13. *A. duplex* ♂.  
Fig. 14. *A. duplex* ♀.  
Fig. 15. *A. nigripennis*.  
Fig. 16. *Dryophthorus nesiotes*.  
Fig. 17. *D. homorhynchus*; 17 a, head and rostrum of ♀; 17 b, head and rostrum of ♂.  
Fig. 18. *D. declivis*.  
Fig. 19. *D. insignis*.  
Fig. 20. *D. verticalis*.



W. H. Allen, del. Cambridge.

20

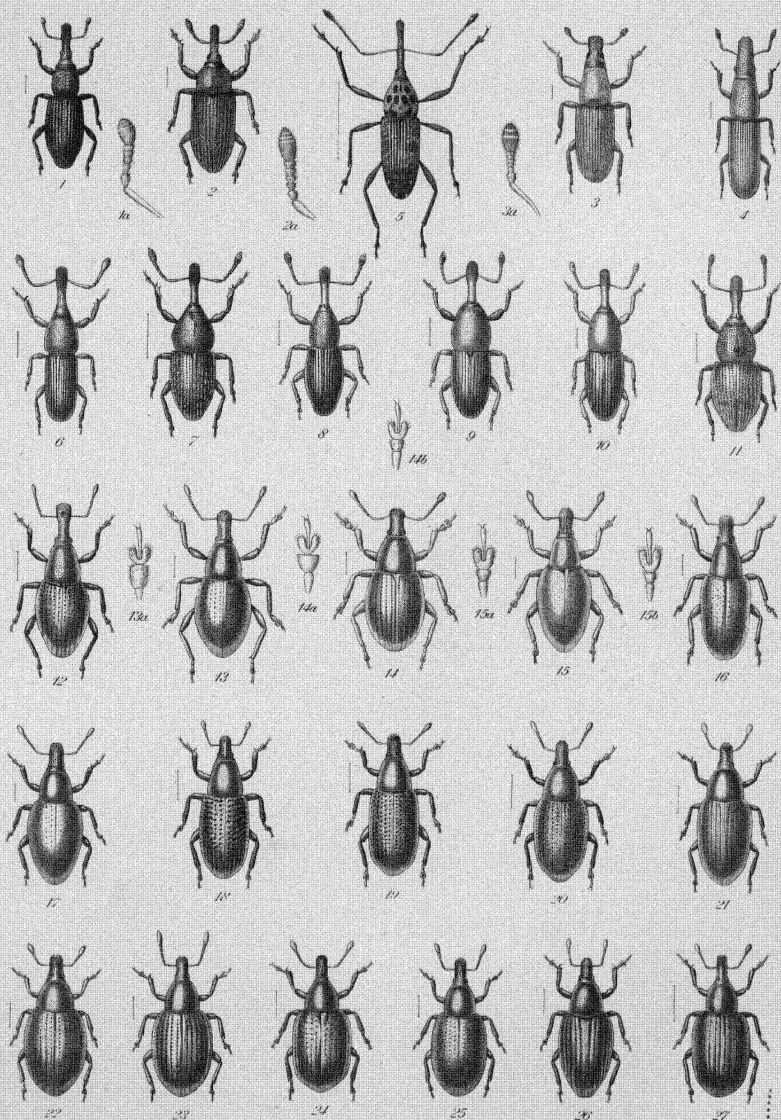


DESCRIPTION OF PLATE VIII. (VOL. II.)

COLEOPTERA. CURCULIONIDAE.

- Fig. 1. *Thalattodora insignis*; 1 *a*, antenna of the same.  
Fig. 2. *Orothreptes callithrix*; 2 *a*, antenna of the same.  
Fig. 3. *Deinocossonus nesiotes* var. *hawaiiensis*; 3 *a*, antenna of the same.  
Fig. 4. *Haloxenus immigrans*.  
Fig. 5. *Nesotocus kauaiensis*.  
Fig. 6. *Dysomma sylvicola*.  
Fig. 7. *Heteramphus filicum*.  
Fig. 8. *H. molokaiensis*.  
Figs. 9 & 10. *H. cylindricus* (large and small form).  
Fig. 11. *H. kauaiensis*.  
Fig. 12. *Oodemus olindae* ♀ var.  
Fig. 13. *O. longicorne* ♂; 13 *a*, anterior tarsi of the same.  
Fig. 14. *O. molokaiense*; 14 *a*, anterior tarsi of the same.  
Fig. 15. *O. chrysodorum* ♂; 15 *a*, anterior tarsi of ♂; 15 *b*, anterior tarsi of ♀.  
Fig. 16. *O. graciliforme*.  
Fig. 17. *O. leiothorax*.  
Fig. 18. *O. pulchrum*.  
Fig. 19. *O. oblongum*.  
Fig. 20. *O. grande*.  
Fig. 21. *O. corticis*.  
Fig. 22. *O. pachysoma*.  
Fig. 23. *O. aenescens*.  
Fig. 24. *O. sculpturatum*.  
Fig. 25. *O. mauense*.  
Fig. 26. *O. striatum*.  
Fig. 27. *Anotheorus robustus*.





Edwin Wilson, lith. Cambridge.

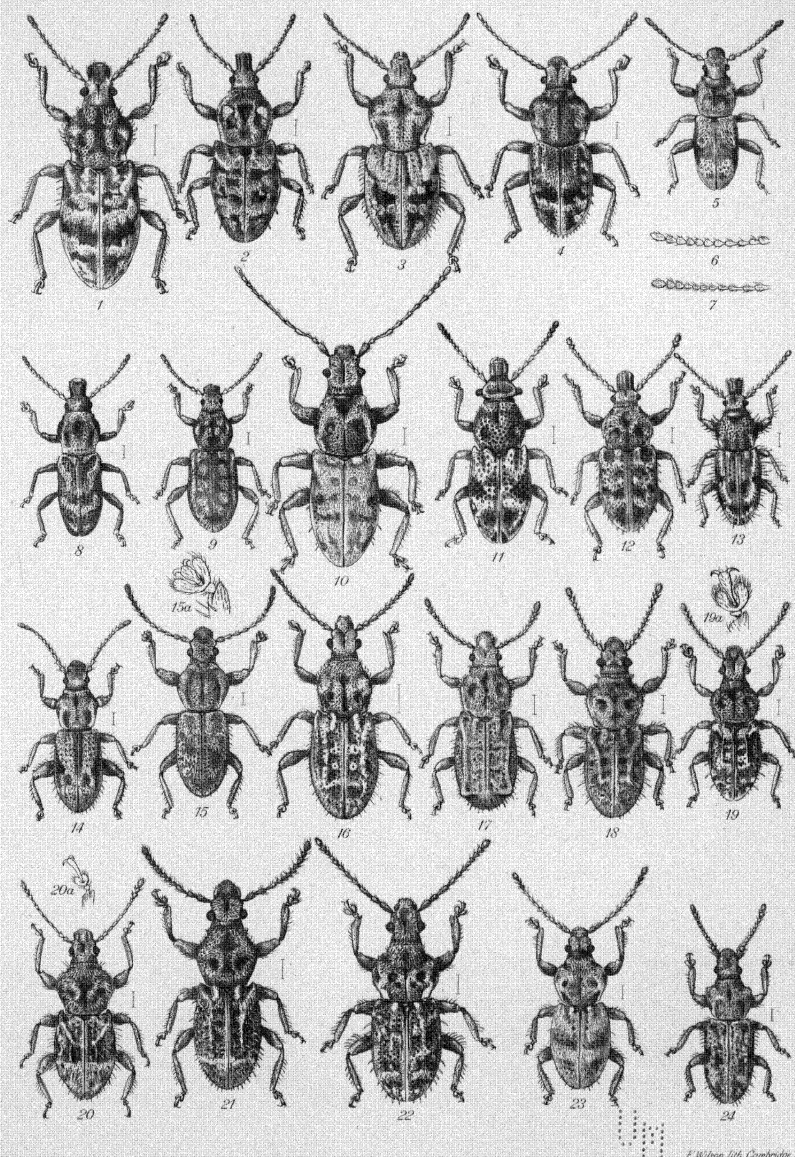




DESCRIPTION OF PLATE IX. (VOL. II.)

COLEOPTERA. *PROTERHINIDAE*.

- Fig. 1. *Proterhinus gigas* ♂.  
Fig. 2. *P. eugonias* ♀.  
Fig. 3. *P. eulepis* ♂.  
Fig. 4. *P. wikstroemiae* ♂.  
Fig. 5. *P. laticornis* ♂.  
Fig. 6. *P. serricornis*, antenna ♂.  
Fig. 7. *P. eurhopalus*, antenna ♂.  
Fig. 8. *P. leptophyas* ♀.  
Fig. 9. *P. maculifer* ♂.  
Fig. 10. *P. kamptarthrus* ♂.  
Fig. 11. *P. deinops* ♀.  
Fig. 12. *P. platygonias* ♀.  
Fig. 13. *P. leptothrix* ♀.  
Fig. 14. *P. pachynemis* ♂.  
Fig. 15. *P. laticollis* ♂; 15 a, front tarsi of the same.  
Fig. 16. *P. validus* ♂.  
Fig. 17. *P. sharpi* ♂.  
Fig. 18. *P. tuberculiceps* ♂.  
Fig. 19. *P. sternalis* ♂; 19 a, front tarsi of the same.  
Fig. 20. *P. microtarsus* ♂; 20 a, front tarsi of the same (drawn on same scale as 19 a).  
Fig. 21. *P. arhopalus* ♂.  
Fig. 22. *P. mirabilis* ♂.  
Fig. 23. *P. alyxiae* ♂.  
Fig. 24. *P. pteridis* ♂.



*L. Wilson, lith. Cambridge.*



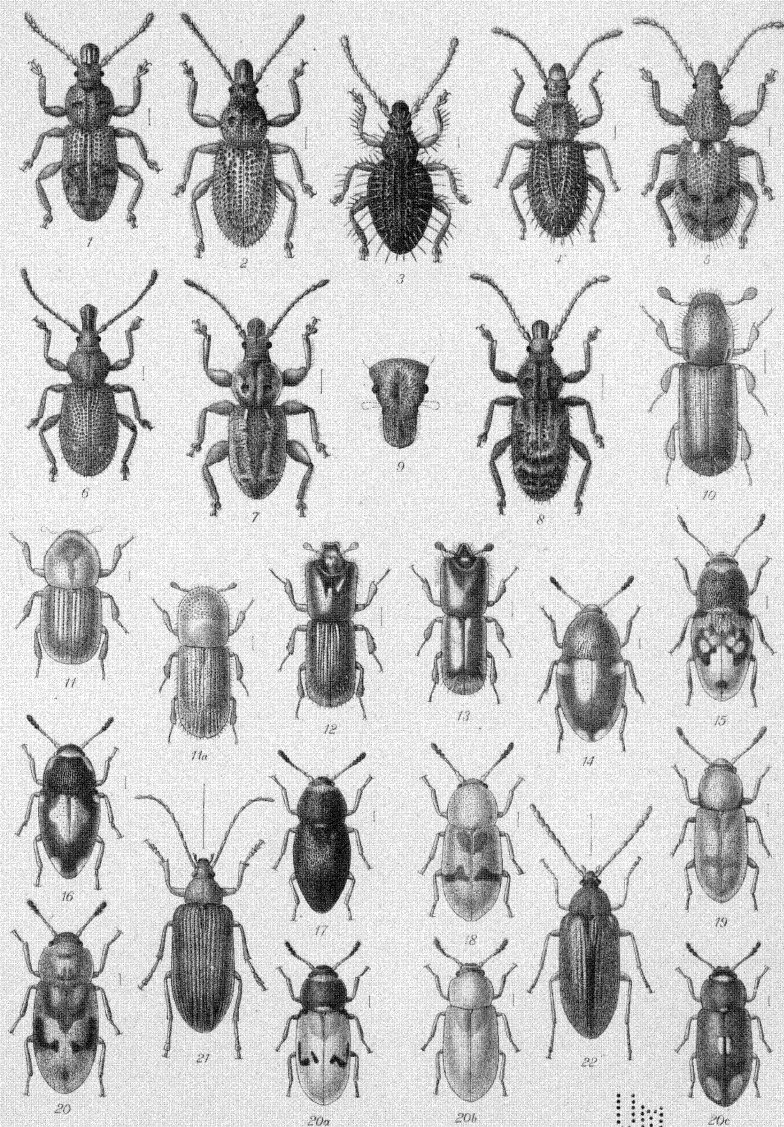


DESCRIPTION OF PLATE X. (VOL. II.)

COLEOPTERA. *PROTERHINIDAE*, *SCOLYTIDAE*, *CISTELIDAE*, *CIOIDAE*.

- Fig. 1. *Proterhinus detritus* ♀.
- Fig. 2. *P. epitretus* ♀.
- Fig. 3. *P. kaalae* ♂.
- Fig. 4. *P. oahuensis* ♂.
- Fig. 5. *P. blackburni* var. *bisignatus* ♂.
- Fig. 6. *P. osculans* ♀.
- Fig. 7. *P. persimilis* ♂.
- Fig. 8. *P. hawaiiensis* ♀.
- Fig. 9. *P. eurhynchus* ♂, front of head.
- Fig. 10. *Xyleborus molokaiensis* ♀.
- Fig. 11. *X. immaturus* ♂; 11 a, ♀.
- Fig. 12. *X. exsectus* ♂.
- Fig. 13. *X. vulcanus* ♂.
- Fig. 14. *Apterocis lanaiensis*.
- Fig. 15. *A. ornatipennis*.
- Fig. 16. *A. strigosus*.
- Fig. 17. *Cis haleakalae*.
- Fig. 18. *C. nigro-fasciatus*.
- Fig. 19. *C. insularis*.
- Fig. 20. *C. signatus*; 20 a, 20 b, 20 c, other varieties of the same.
- Fig. 21. *Labetis comitans*.
- Fig. 22. *Cistela kauaiensis*.





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